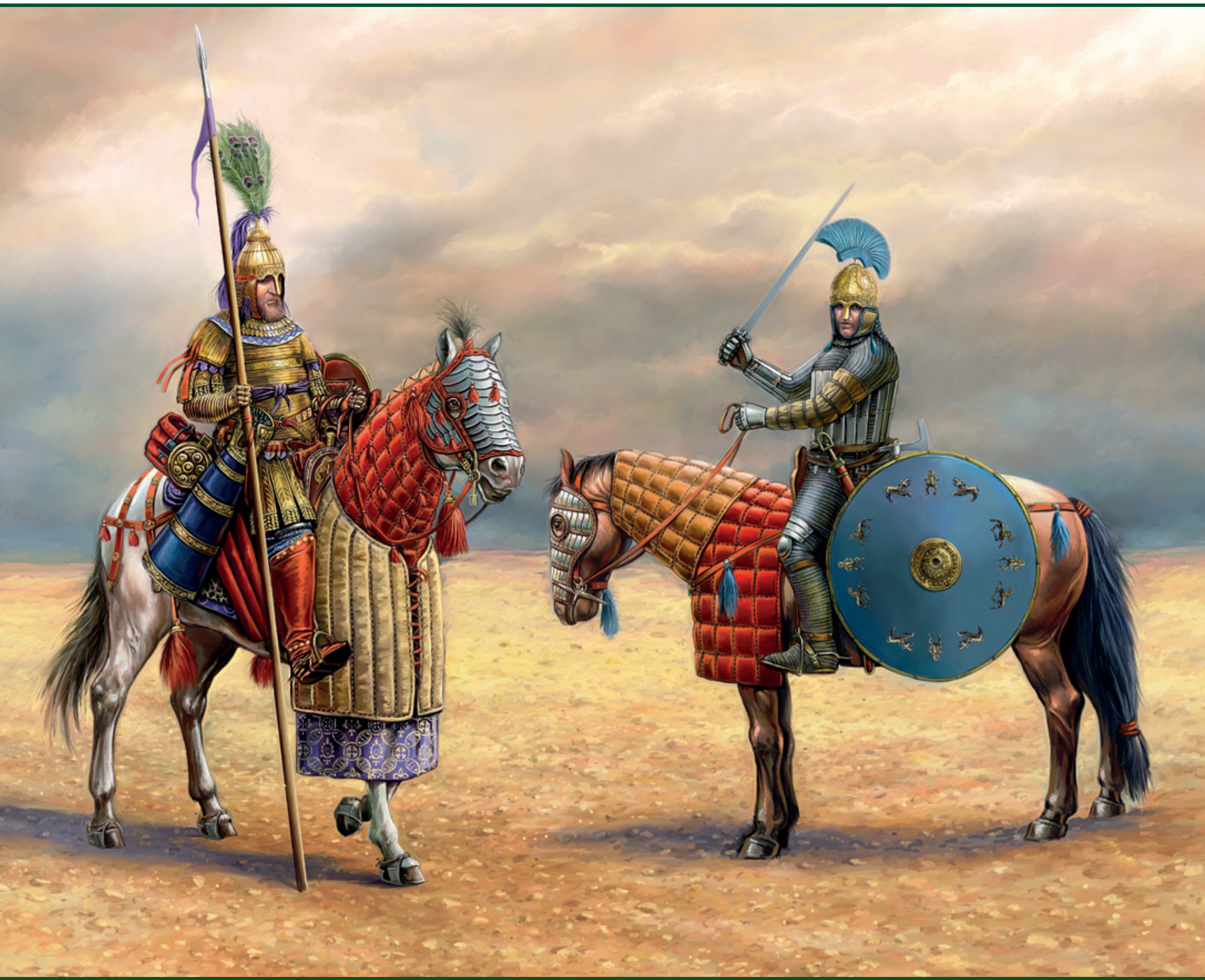
Roman Heavy Cavalry (2)

AD 500–1450



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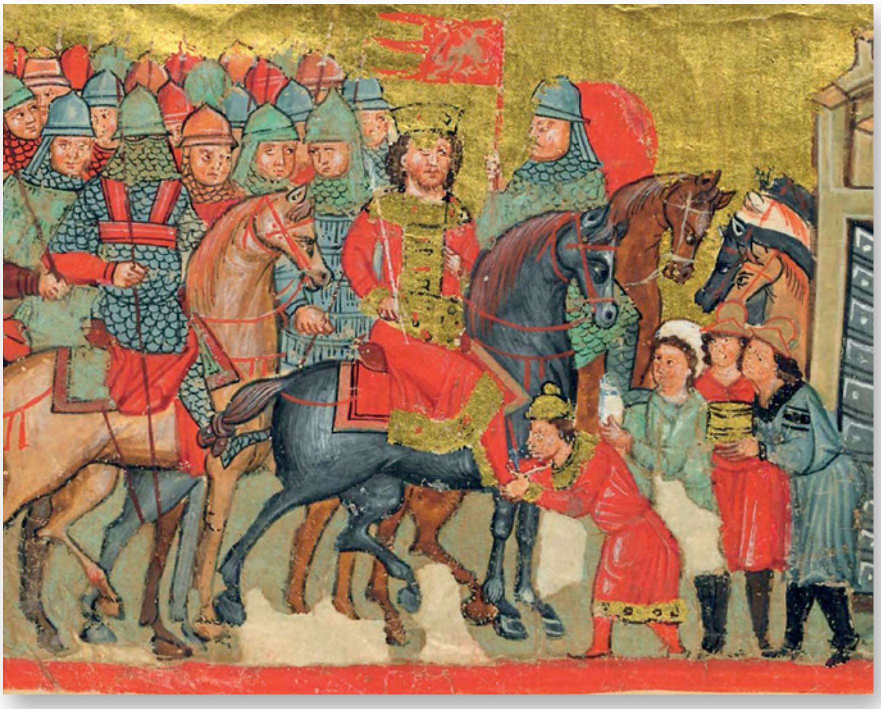

ANDREY NEGIN & RAFFAELE D'AMATO

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Series editors Martin Windrow & Nick Reynolds

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ROMAN HEAVY CAVALRY (2)

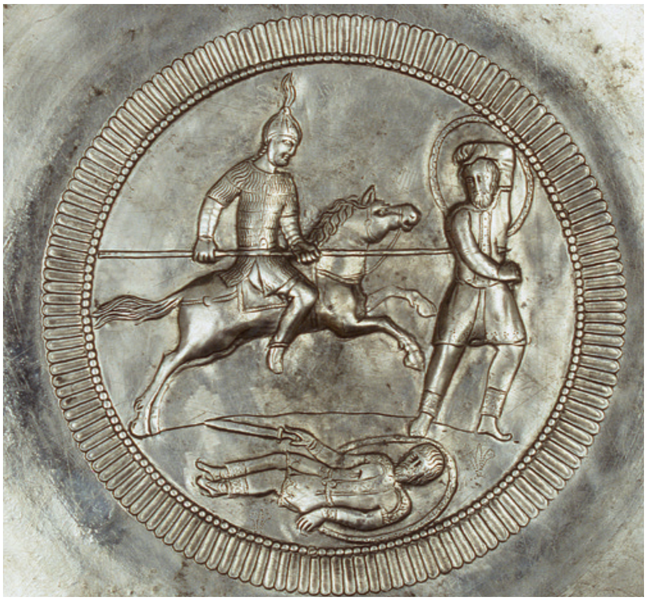
AD 500–1450

INTRODUCTION

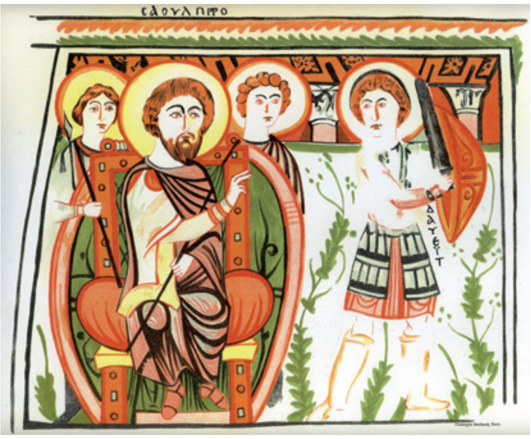
In the Late Empire, units of *catafractarii* and *clibanarii* formed the elite of Roman armies. As the Western Empire ran towards its unavoidable twilight in the 5th–6th centuries, the Eastern Empire centred on Constantinople (Byzantium) grew ever stronger, allowing the survival of the Roman state for almost another thousand years. The backbone of the Eastern Roman army was now the heavy cavalryman, clad in iron and steel – as sometimes was his horse.

Wojnowski has pointed out that the historiography of the 20th–21st century has sometimes seen the Roman medieval heavy cavalryman through the narrow prism of a transition from the Ancient to the Medieval world; but to see him solely as a forerunner of the medieval man-at-arms or 'knight' is an over-simplification. During the Byzantine centuries this formidable warrior sometimes combined the use of the heavy spear with that of the bow; the Eastern Roman *katáphraktoi* were an evolution of a type of soldiers already existing in Late Antiquity (generally considered as the period from the 3rd to 8th centuries AD), and not only among the Romans. They are certainly fitting representatives of the Byzantine medieval war machine, of which their training, costly equipment, often-decisive role on the battlefield, and their survival until the last centuries of the Roman East make them a striking embodiment.

To reconstruct their equipment and organization, the present authors have drawn upon three main types of sources in addition to the iconography of the period. Today, archaeology offers precious new data to compare with two strands of literary source: the military manuals, but also lesser-known works such as the war poetry of Georgios of Pisidia. Among the manuals, the *Strategikon* of the Emperor Maurice (Mavrikios, r. 583–602) highlights the image, tactics and organization of the 6th–7th century cavalry. From the 9th–early 10th century, the best known are the *Taktikà* attributed to the Emperor Leo VI the Wise (886–912), followed by



Detail of the 6th-century Isola Rizza silver dish, from Italy or Constantinople – perhaps the most famous image of a Roman heavy cavalryman of the age of Justinian. Holding a lance *(dory, kòntos, contus)* with both hands, he charges two Germanic – probably Gothic – warriors. His four-segment *Spangenhelm* recalls the Casino Vassarella helmet specimen found near Crecchio, and he wears a long lamellar corselet. On his right wrist is an *armilla* with two spheres, echoing one found at Tomei in Egypt. (Museo di Castelvecchio, Verona; ex D'Amato-Pflaum, 2020) the *Sylloge Tacticorum* (referenced herein as ST), and the *Praecepta Militaria* (PM) of the Emperor Nikêphóros II Phokás (963–969). Around AD 1000 Nikêphóros Ouranós. a general serving under Basil II (976–1025), wrote a very similar work (*Taktikà*, TNO): although an evolution over 30 years of warfare is evident, the basic doctrine remains the same. The heavy-cavalry tactics described in both manuals found their practical application in the 10th-century campaigns described by Leo the Deacon.



'David armed in front of Saul', first half of 7th century. The north wall of Chapel III at Bawit, Egypt, shows the Biblical episode of David (right) wearing King Saul's lamellar armour. The corselet is shorter than that on the more detailed Isola Rizza Dish, but a divided 'skirt' for riding is clearly visible. (ex Clèdat, 1904, pl. XVII)

SELECT CHRONOLOGY (AD)

533	Extra-heavy Roman cavalry (*bucellarii*) are recorded serving under John the Armenian and Uliaris in the victories of Ad Decimum and Tricamarum over the Vandals.
564	Last mention in the Egyptian papyri of the *Leontoklibanárioi*.
623	*Optimatoi* or *Gotho-Graeci* are mentioned by the poet Georgios of Pisidia in the victory of Heraclius over the Sassanian general Sharbaraz.
767	Military reforms of Constantine V; the old *Scholai* and *Eskoubitores* are transformed into effective imperial cavalry forces (*Tághmata*).
811	Contingents of the *Tághmata* join the army of the Emperor Nikêphóros I in the disastrous campaign against the Bulgarians, to be defeated near Pliska; the emperor and the *Droungarios* of the *Vighles* regiment are killed, among many others.
953	The Arab poet and historian Al-Mutanabbi describes the iron-clad Roman *katáphraktoi* and their armoured horses at the battle of Hadath.
971	At the battle of Doroloston in July, the heavy *katáphraktoi* of the *Tághmata* of the Emperor John I (Iohannes) Tzimiskès crush the *Rus* army of Sviatoslav of Kiev.
1040	At the victory of Troina in Sicily, Roman heavy cavalry fight alongside contingents of Norman and other heavy cavalry.
1071	A new *Tághma* of armoured cavalry, the 'Immortals' (*Athanatoi*), is created by the Emperor Nikêphóros III Botoniates.
1147	In September, a Roman army including units of *katáphraktoi* reports a major victory over the German crusader army of the Emperor Conrad II.
1259	At the battle of Pelagonia, the troops led by Michael II of Epirus against the Paleologian army include 'armoured forces equipped with breastplates' (μετὰ τῶν καταφράκτων καὶ θώραξι κεχρημενώ̀ν δυναμέων – Akropolites, 81, p.360), and 'the 400 German cavalrymen clad in strong armour (*katáphraktoi*) and mounted on stately and high-spirited horses' of Michael's son-in-law Manfred, King of Sicily.
1345	Contingents of heavy cavalry are recorded in the army of John VI Kantakouzēnos in his victory over the rebel Momčilo at Peritheorion.
1437–9	Heavy armoured *stradiotai* are recorded among the escort of the Emperor John VIII in Italy.

HEAVY ARMOURED CAVALRY IN THE EASTERN ROMAN ARMY

The problems of terminology

The character, genesis and continuity of different kinds of East Roman armoured cavalry are still matters for scholarly discussion.

In the 6th century the heavy armoured cavalryman is referred to by Procopius (I, 1, 13; IV, 26, 1) as *tethōrakisménos*, while other sources use *thōrakofóros* as a synonym for a heavy-armoured horseman.[1] It should be stressed that there are no mentions of troops termed *catafractarii* or *clibanarii* from the second half of the 6th century to the 9th century. The disappearance of these terms might perhaps be connected with changes that took place in the military technology and ethnic character of the Eastern Roman army during Byzantium's so-called 'dark ages', but this explanation should be approached with caution. Wojnowski has convincingly argued that comparison of the construction and materials of weaponry and armour associated with Roman heavy cavalry during that period with those of the former *catafractarii* and *clibanarii* allows the conclusion that in its equipment, if not in actual unit identities, the Late Roman heavily armed cavalry showed elements of continuity.

Beginning from the 9th century, sources again mention the *katáphraktos kavallários* with the meaning of an armoured cavalryman. The term *katáfraktoi* can be found in the tactical writings of the Emperor Leo VI to describe heavy armoured cavalry, both of his own time and of the former ages. It is clear that in 9th- and 10th century treatises the word spelt *katáphraktoi* often refers simply to a category of troops, including in references to enemy heavy cavalry (PM I, 100, 116; II, 87); in this they were copying the term favoured in the Late Roman military literature. In parallel, writers with direct experience of battle, such as Nikêphóros Phokás and Nikêphóros Ouranós, sometimes use the term to identify specific units in the army having this title and function. Therefore, it may be argued that the renewed appearance of the term *katáphraktoi* in the 10th century was not linked with military reforms, but simply revealed the continuing existence of such units. The typical battle-order of the cataphracts, the *cuneus* or wedge formation, was probably continuous over centuries.

History: 6th–7th centuries

The armoured cavalry underwent a substantial change in the period of Anastasius (491–518) and Justinian (527–565). Although units of heavy armoured archers had been known since the 5th century, it seems that it was during the years preceding the Vandal and Gothic wars of the 530s that the Roman heavy cavalry was divided mainly into two different types: the heavy horse-archers, who combined the tactics of the steppe archers with the equipment of the Late Roman cavalryman; and the heavy lancers (*doryphòroi*). In the Roman world, the influence of the steppe peoples eventually led to the development of a 'composite' cavalryman, a soldier equally proficient with both bow and lance. This emphasizes the Romans' ability to adapt to suit new modes of warfare – an ability which was to save them from disaster at the hands of the Avars.

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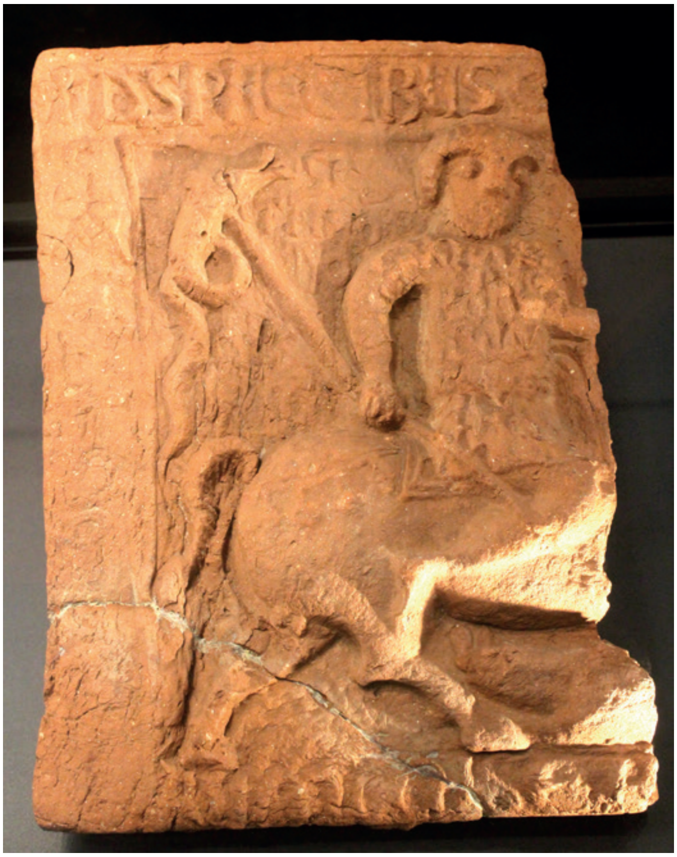
[1] For *tethōrakisménos* in the sense of fully-armoured *katáphraktos,* see Proc. *Bell. Pers*. i 1.12, 5.5, 24.51; *Bell. Vand.* ii 26.1; *Bell. Goth*. i 9.15, 16.11, 22.4, 23.19; ii 5.14; iii 4.21; iv 8.17, 11.33.39; and Agath. i 9.4; iv 20.1; v 22. 4. For *thōrakofóros* with the same meaning, see Theophilact Simocatta VII,13,10: 'And so the Romans did not realize that the general had ordered them to arm for battle, and protected their chests [only] with coats of mail (τοῐ̈ς σιδηρείοις χιτῶσι), thinking that he wished to conduct a review of the army'.



Late 6th-century terracotta relief from Vinicko Kaje, depicting St Theodore Stratilates as a *drakonarios* of Danubian Roman heavy cavalry. (Archaeological Museum, Skopje, North Macedonia; author's photo, courtesy of the Museum)

Besides the heavy armoured cavalry, units of lighter mounted archers (*hippotoxótai*) wore breastplates, helmets, and small circular shields attached to the left shoulder (a feature visible in Sassanian art). In his *Wars*, Procopius gives a detailed description: 'the bowmen of the present time go into battle wearing corselets and greaves which extend up to the knee. From the right side hang their arrows, from the other the sword. And there are some who have a spear also attached to them and, at the shoulders, a sort of small shield without a grip, so as to cover the face and neck' (*Wars*, I, I, g–15). Besides the heavy cavalry surviving from the old units mentioned in the *Notitia Dignitatum* and the contemporary Egyptian papyri, the role of the heavy armoured cavalry, in both specialities, seems now to have been filled by the *buccellarii* – the military retinues of the *Magistri Militum* – as well as by other elite units (*epílekta*).

In the *Strategikon* of Mavrikios, our main source for the late 6th–early 7th century, the heavy cavalrymen called *zabátoi* (*Strategikon*, X, 1, 19-21) – i.e. protected by the leg-length coat of mail called a *zába* – were either to be armed with the bow, or to perform the role of lancers. Throughout the period from the 6th century the heavy armoured cavalry supported by mounted archers acted as the main striking force of the Roman army. In the adoption of the tactics of cavalry archers, Heraclius (610–641) remained more faithful to the models offered by the Avars and the Turkic peoples – almost identical to those of the Huns – than to those of the Sassanian Persians. Despite the use of the bow, the army of the Sassanian king Khosrow I (531–579) had retained its heavy-cavalry character, with a preponderance of defensive equipment. If Mavrikios (582–602) was faithful to this model, Heraclius by contrast reduced the heavy cavalry in favour of larger numbers of light horse-archers; however, the concept of heavy armoured cavalry was never abandoned, even during the obscure 7th and 8th centuries.

8th–10th centuries

The continued existence of heavy armoured cavalry is attested by rich archaeological finds in Italy, the Balkans and the Kuban area; by the few but substantial mentions in the sources; and by scarce but important iconography. Georgios of Pisidia, in a passage celebrating the deeds of the Emperor Heraclius, expressly mentions the armoured cavalryman (Suppl. III (= 1), 4ff.), calling him ἱππέϊς ἐνόπλους. The *Life of St Iohannicius*, related to events of the early 9th century, speaks (p. 351) of horsemen carrying swords (ξιφηφόροι) and protected by heavy iron armours (ἱππέων τινῶν και σιδηροθωράκων ὁπλιτῶν), at a time just after the important reforms of Constantine V (741–775). Heavy cavalry equipped with bows are mentioned in the 9th century, in the *Taktikà* of Leo the Wise (886–912).

In 9th- and 10th-century military treatises and other written sources, the term *katáfraktoi kavallárioi* for elite heavy armoured cavalry units reappears. The improvement of such regiments coincided with the 'era of conquest' which began in the reign of Romanos II (959–963), continued with the victories of Nikêphóros II Phokás (963–969) and John I Tzimiskès (969–976), and culminated in the reign of Basil II (976–1025). These years saw, once again, the pre-eminence in battle of heavy and extra-heavy cavalrymen (*katáfraktoi* and *klibanophoroi*). They were probably decisive from as early as the campaigns of Kourkouas in the 920s–940s, and certainly during those of Nikêphóros Phokás in Cilicia and John Tzimiskès against the Rus and Bulgarians. They applied the same tactics, and were equipped with similar armour, to those of their ancient forerunners. The heavy cavalry trooper was covered from head to foot in lamellar, mail and quilted protection, as were the face, neck, flanks and forequarters of his horse. Combined with an effective screen of light cavalry, who could both harass enemy forces on the move and cover the advance of the *katáfraktoi*, and backed by heavy infantry formations, the heavy cavalry allowed the Eastern Roman armies to achieve a long series of victories lasting well into the 11th century.

11th–15th centuries

Katáphraktoi continued to be the Empire's most effective cavalry during the campaigns against the Fatimids by John I Tzimiskès and Basil II in 970–990. McGeer proposes that their role seems to have been of lesser relevance in the East during the 11th century, confined to the local raids and 'police actions' which characterized Roman military activity there, but Roman

A

THE 6th CENTURY

(1) *Boukellarios*, AD 534

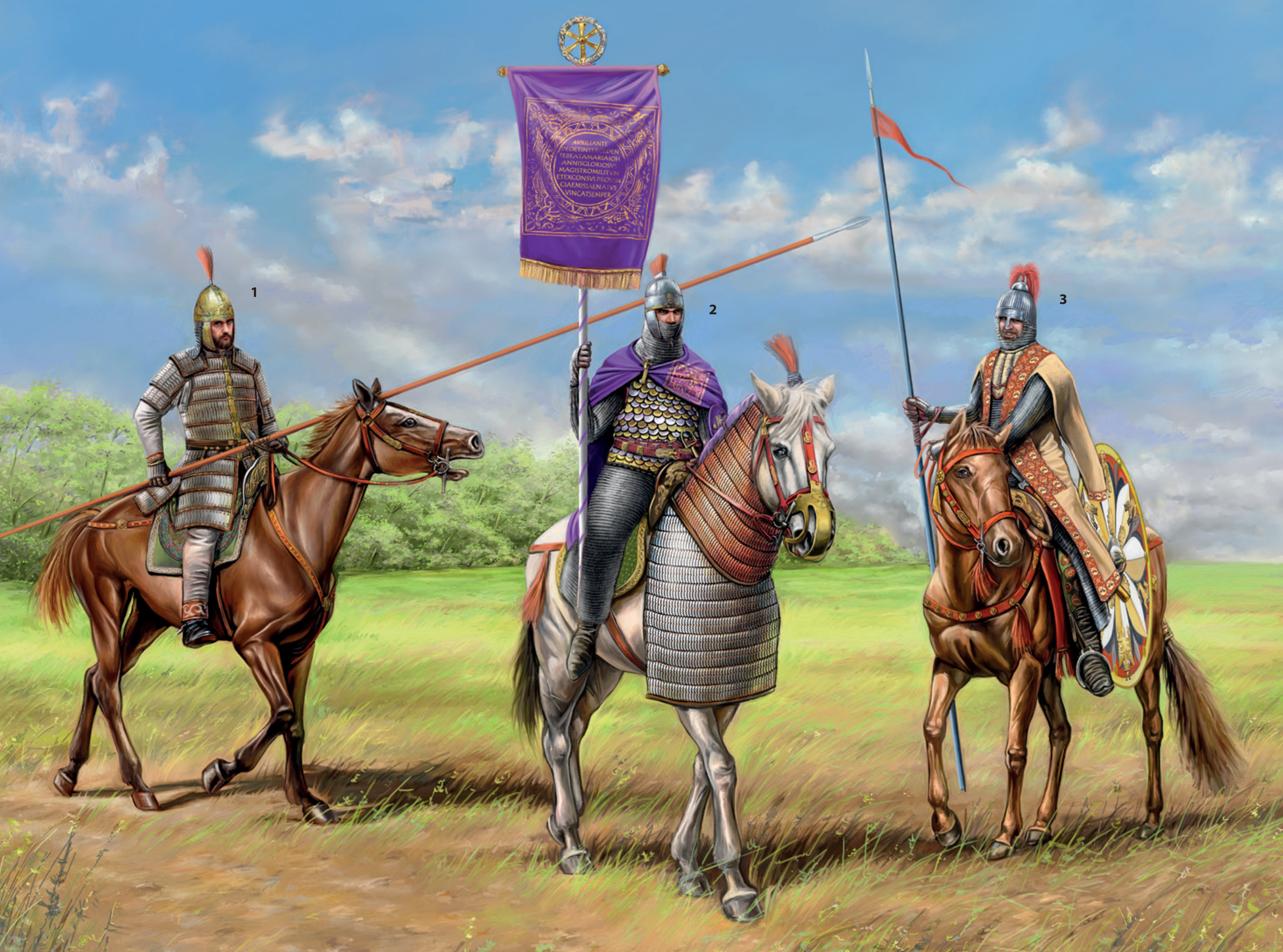
This 'extra-heavy' armoured cavalryman of a general's retinue is reconstructed partly from the Isola Rizza silver dish. His gilded four-band *Spangenhelm* helmet with cheek-guards is copied from the Torricella Peligna specimen. His lamellar armour is based on Romano-Lombard finds from Grave 90 at Castel Trosino: a heavy *lorica* made of rectangular *lamminae*, connected to one another with iron wire. It is worn together with a mail gauntlet, found in the same grave. His long *kòntos* lance has a Mediterranean foliate head typical of the spearheads produced in the factories of the Roman Empire, although also found in Lombard graves.

(2) *Bandophoros* of a *Magister Militum*, 554

From Procopius, we learn that the cavalry trooper wore lamellar and mail armour for his body and legs. Strapped to his left shoulder under his cloak is a small circular shield without a handle, to protect the face and neck - probably originally of Hunnic origin. In addition to his sword, he carries a spear or lance, which in this man's case flies the *bandon* or standard of his theatre-commanding general. Note his raised saddle decoration in gold, copied from the Nocera Umbra graves.

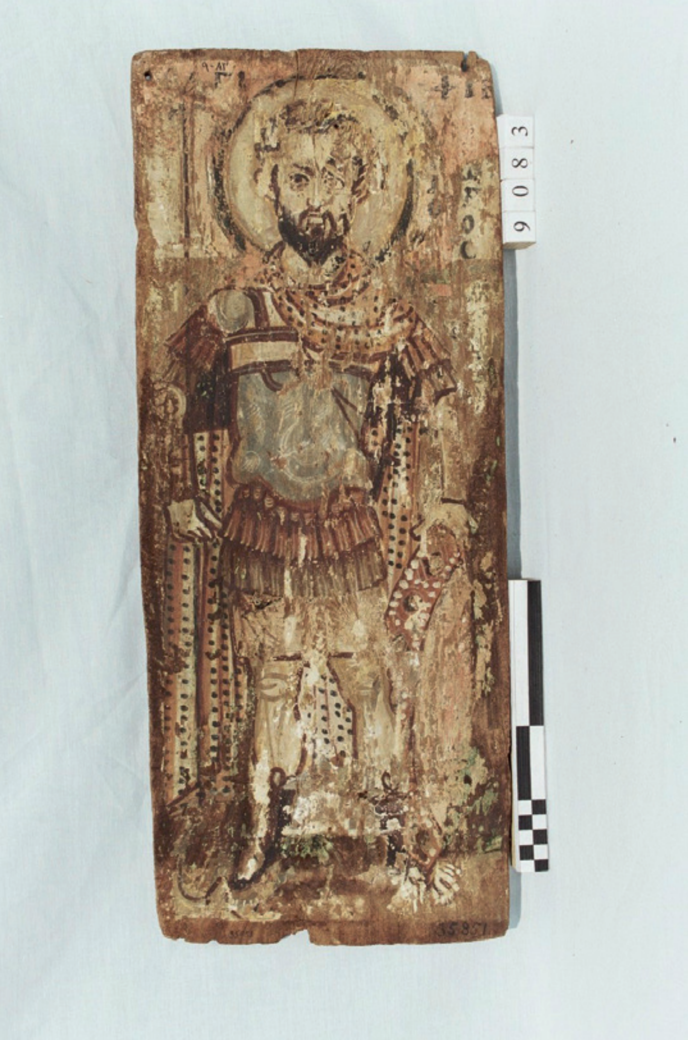
(3) *Boukellarios*, 575–600

Based upon the Emperor Mavrikios (Maurice's) description in his military manual, the *Strategikon*, this heavy cavalryman of the *Bucellarii* wears a hooded, ankle-length coat of mail, with a gorget of Avar type, and tufts at the shoulders, covered by a riding-coat. The helmet is based on the segmented metal and horn specimen in Cologne Museum. In the manual, armoured gauntlets (*cheiromanika*) are specifically associated with the *Bucellarii*; see page 14 for specimen recently found in Sochi. Obscured here, on his right side, are a composite bow (*toxarion*) in a bowcase (*thékarion*) and quiver (*koukouron*) slung from his waist belt, His primary weapons are the cavalry lance (*kontarion kaballarikon*), furnished with a leather carrying strap, backed up by a sword (*spathion*) of Corinth typology.


1
AVXILIANTE
DEOETINTERCEDEN
TEBEATAMARIAIOH
ANNISGLORIOSVS
MAGISTROMILITVM
ETEXCONSVLPROVIN
CIAEMISIAENATVS
VINCATSEMPER
2
3

authors of the 11th-12th centuries repeatedly emphasize that the regular heavy cavalry continued to be a key element. At the battle of Troina in Sicily in 1040, the heavy armoured horsemen of the general Maniakes demolished the Arab array at the first attack, although it is not clear if all his cavalry were heavily armoured as *klibanophoroi*. When Constantine IX Monomachus (1042–1055) celebrated his victory in 1043, the elite heavy cavalry (*katáfraktoi hippoi*), armed with shields, spears, bows and swords, took part in the triumph (Psellos, LXXXVII, 6–11, p. 7). The same author stresses that *katáfraktoi* constituted the main striking force of Leo Tornikios' army in 1047 (CVII, 18–24, p. 20). While Psellos does not make a clear distinction between regular heavy cavalry and extra-heavy cavalry, the existence of units of *katáfraktoi* is evident. Norman sources of the 11th century still mention the special heavy cavalry who made up the shock-delivering wedge described by Phokás and Ouranós.

It is possible that in the 11th-12th centuries, after the reign of Romanus IV (1068–1071) and the catastrophic defeat at Manzikert, local heavy cavalry were to some extent replaced by the massive recruitment of mercenaries, especially Normans. In Anna Komnene there are several mentions (II 8, 5; V 5, 2; V 6, 4; XIII 5, 3; XIV 6, 3; XV 6, 4; XV 6, 7) of units of *katáfraktoi*, which distinguish between heavy Roman lancers (*doryfóroi katáfraktoi*) and Norman mounted mercenaries in Roman employment who were also armoured (*Kéltoi katáfraktoi*). One of the most celebrated victories of Manuel I Komnenos was obtained by the heavy cavalry of his general Kontostephanos against the Hungarians in 1167.



Icon of St Theodore represented as a 6th-century heavy cavalryman, from the Bawit Monastery, Egypt, 6th century. Here he wears a metallic 'muscle' cuirass with rounded shoulder-guards, worn over a *peristithidion* (under-armour jerkin) furnished with two ranges of *pteryges* of different colours. Arm and leg protection is also discernible, and short open-toed boots. Beneath his armour is the usual tunic, and over it a military *chlamys* cloak. His oval shield is decorated with gems. (Coptic Museum, Cairo, inv. 9083; author's photo, courtesy of the Museum)

It is clear that during the 13th and 14th centuries the cavalry continued to be the key element of Byzantium's army. These heavy-armoured horsemen probably consisted of wealthy aristocrats and their retinues, especially after the fall of Constantinople to the crusaders in 1204 and the consequent fragmentation of the Empire into the three 'potentates' of Nicaea, Trebisond and Epirus. We again find mention of them in the wars of the 14th century: in one of the last pitched battles fought by the Romans (Peritheorion, 1345) the army of John VI Kantakouzēnos included three *tághmata* or regiments of armoured cavalrymen, still called *katáphraktoi* in the sources. It is noteworthy that Kantakouzēnos, when speaking of the Roman troops in his history, rarely distinguishes between cavalry soldiers (*hippeis*) in terms of armament or quality, but when he does, they are always heavily armoured: (I, 429, '300 German mercenary cataphract cavalrymen'; II, 356, 'Latin mercenary cataphracts', etc). So does Georgios Akropolites (p. 126, Chap. 61: 'As is their custom, the Romans were clad in burdensome armour (ὅπλοις κατφράκτοί), while the Scyths [i.e. Cumans] are lightly armed warriors and use bows').

In the last decades of the Empire in the 15th century, the *stradiotai* of Byzantium still formed a relatively heavy-armoured elite, fighting as lancers (*kontaratoi*) or archers (*toxotai*). When the Emperor Iohannes VIII Palaiologos went to Italy on his desperate diplomatic mission in 1437–39, his retinue included *Stradiotai* who were described by Italian observers as more fully armoured than the Emperor's light cavalry of *Ianitsarai*.

ORGANIZATION & UNITS

During the 6th century a few units of heavy cavalry are still mentioned: for instance, in Egypt, the Ala III Assyriorum commanded by the *vicarius* Flavius Ala in the camp at Psobthis in 501 (Papyrus XVI Oxyrhyncos, 1884), and the *Leontoklibanarioi,* last mentioned in 564. Instead of *catafractarii* or *clibanarii,* the names now given to such modest-sized units of 200–500 men were generally *numerus*, *vándon*, *arithmòs* or *katálogos;* their troopers are called simply soldiers (*stratiôtai*).

Roman heavy cavalry during the reign of Justinian (527–565), as described by Procopius of Caesarea, were mainly represented by the *bucellarii*

Standards & Flags

From the time of Justinian the Great the word *vandon* was used not only to mean a military unit, but also a related standard (e.g. the *vandon* of the *buccellarii,* mentioned in the *Strategikon,* I, 42). Georgios of Pisidia writes (*Expeditio Persica,* II, 81ff) that 'the agile combination of the colours signals tactical movements from a distance and is seen by all'. These squared τροπαία were also called *flamoula,* because they were furnished with three or more long streamers, like flames (ώς μεταρσίους φλόγας). The spearheads were also decorated with tufts (τούς κομῶντας αὐχένας).

Such standards are visible in the iconography of the 9th to 12th centuries, assigned to units of the army. In the 12th-century Skilitzès MS *flamoula* or *banda* associated with units of heavy cavalry are of different dimensions. Some are small, shaped as a strip of blue cloth fitted with three red streamers; others are a small square of red or blue cloth with blue or red streamers; still others, of red cloth sometimes embroidered with a white cross, with long red streamers. The largest and richest bear white and blue crosses, and have four or more 'flames' of different colours (e.g. red, blue, pink and yellow). Squared red flags with streamers and decorated with gold circles are visible in both the Skilitzès and Iliad Marciana manuscripts.

Late poems offer descriptions of the cavalry flags of *archontes* at the end of the Empire which are clearly influenced by Western heraldic fashion. In the 15th-century *Achilleis*, the heavily armoured Pandrouklos carries a flag bearing a spread-winged eagle in the shape of a cross, and a purple lion, on a green field. (See reconstruction in Plate H3).

of generals, divided into *doryphóroi* (officers) and *hypaspistaí* (troopers). These were the *idikoi* (retinues) of superior officers: (*Strategikon*, I, 9, 42: 'When the army is on the march, the commanding general should be at its head with his own specially chosen troops preceding him as an honour guard. With them should be their spare horses and the *bucellarii* standards'). It is difficult to establish how many units of *bucellarii* there were in the 6th-century army, because each general raised his own. Belisarius is recorded by Procopius as having about 7,000 *bucellarii*, including 1,500–2,000 during the Vandal war in 533, and 2,000–2,500 in Italy during the first phase of the Gothic war of 535–536. Valerianus, *Magister Militum per Armeniam*, is said to have had 1,000 (VII, 18, 3), but according to Agathias (I, 19) 400 of these were the *bucellarii* of Narses. Other contingents are recorded by Procopius for the generals Martinus, Theodore, and Peter (III, 11, 30; IV, 18, 1; VI, 26, 26).

At the turn of the 6th–7th centuries the cavalry was ordered in *tàghmata* or *vànda*, each unit 300–400 strong under the command of a *comes* or *tribunus*. Six to eight *vànda* formed a *moira*, of 2,000–3,000 men commanded by a *dux, moirarches* or *chiliarches*. Two or three *moirai* formed a *méros* with 6,000–7,000 cavalrymen, under a *merarches* or *stratelates*; and three *mere* formed a *stratós*, a cavalry army with a maximum strength of 18,000–21,000 men, under the *strategos* or general.

Within each *vàndon,* the first rank was formed by the *decarchai* file-leaders, the second by the *pentarchai* who commanded half the file, and the last rank by the *tetrarchai* who supervised the formation's alignment. When a *vàndon/tághma* was deployed in rectangular formation the depth of the files could vary from five to ten ranks. Elite units such as the *Phoederatoi* deployed seven ranks; the *Optimatoi* or *Gotho-Graeci* (which could have *vánda* of varying strength, up to 700 men) formed five ranks followed by two of servants (in the sense of 'squires').

In battle, the files were regularly doubled, each dividing into a first column led by the *decarches* followed by the odd-numbered troopers called *primi*, and a second column flanking the first, led by the *pentarches* followed by the even-numbered men called *secundi*. The first two ranks, commanded by *decarchai* and *pentarchai*, were completely armoured, horses included, and carried spear and shield. The same was true of the last two ranks, led by the *tetrarchai*, to face possible attacks from the rear. Considering the

B

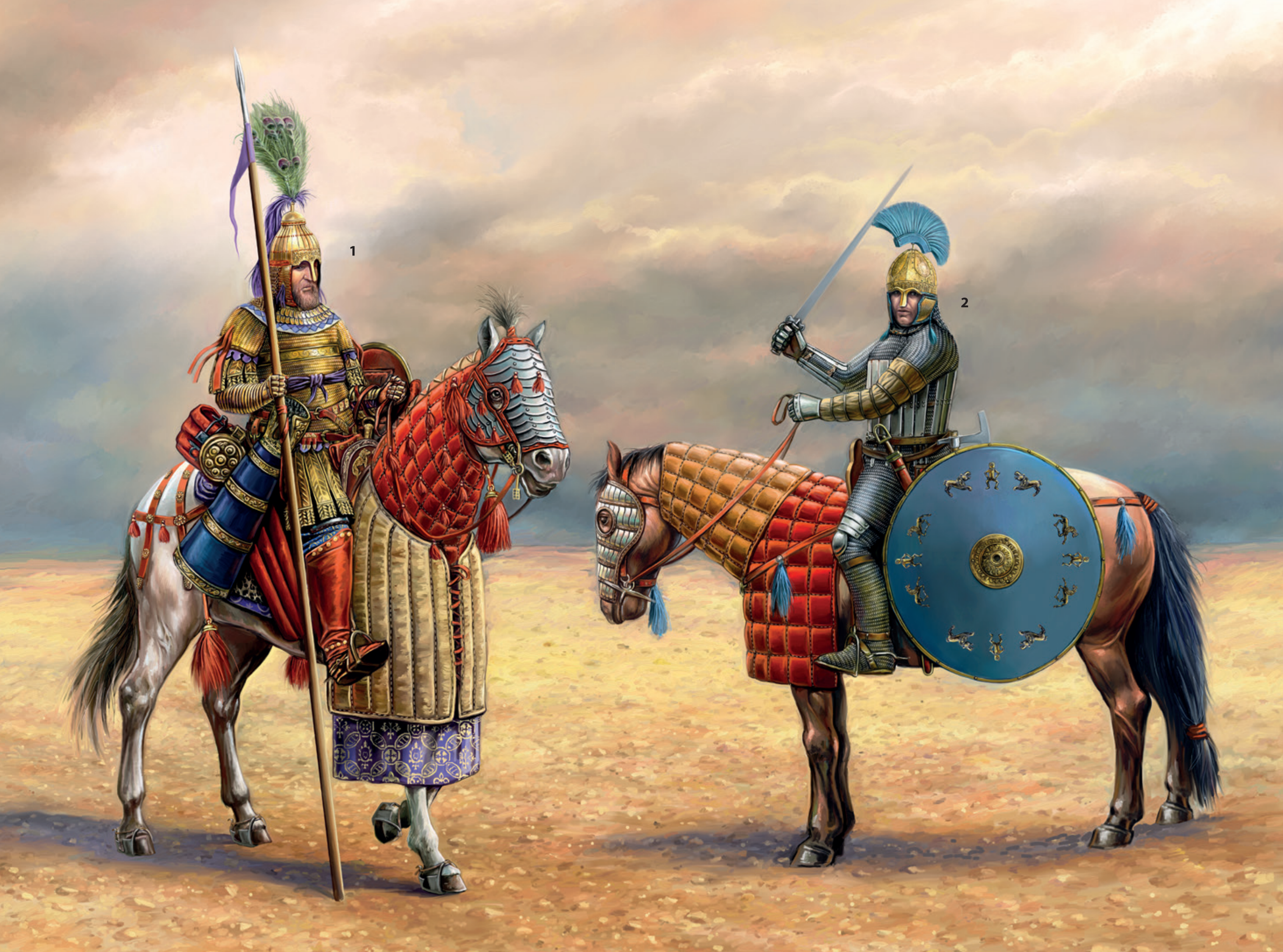
THE 7th CENTURY

(1) Emperor Heraclius, Persian campaign, AD 623

Heraclius wears a wide linen and wool tunic (*zôstarion*) of Avar fashion, long enough to cover the cavalryman's knees when on horseback. The mail-coat is three layers thick (*lorikion o zabe trimiton*), and is worn with a round gorget (*peritrachlion stroggylion*) and a cape (*skaplion*). The separate shoulder guards are ornamented with small purple *flammoulai*. He is armed (according to Georgios of Pisidia, *Expeditio Persica*, III, 84) with a bow (*tòxon*) and round buckler (*aspis*) in addition to a lance and sword. The emperor's magnificent lamellar helmet (*kassis*) is copied from the specimen found in Stara Zagora but is here gilded, and has decorative tufts attached to the cheek-guards. His grey horse (*adèstraton*) has a saddle composed of two parts, and is protected on the neck and breast with felt armour in the Avar style.

(2) *Ippeus enoploos* (cataphract cavalryman) Optimatoi (Gotho-Graeci)

This elite cavalryman is copied from the decoration on the Caucasus *Spangenhelm* of Baldenheim typology (see page 42), which is reconstructed upon his head. His armour is mainly a ring-mail *zaba*, except for splint armour protecting his arms and legs; his armoured gloves are war-booty from Sassanian Iran. Following the prescriptions in the *Strategikon,* his war horse is fitted with a substantial curb bit (*psàlion*), and stirrups *(skalai)* hang from the saddle; it is protected by a *prometopidion* (nose-piece), *peritrakélion* (neck protection), and a *stetistèrion* (breast protection). Decorative tufts (*touphai*) are attached to the front (*antelìnos*) and back (*opistelìnos*) harness straps, and under the muzzle (*koruphe*). Note the gold decoration on the front of the saddle, which would have an embroidered *episèllion,* and saddlebag for subsistence kit (*sellapougghion*). The appliqué decorations on the large shield are from the Martinovka treasure.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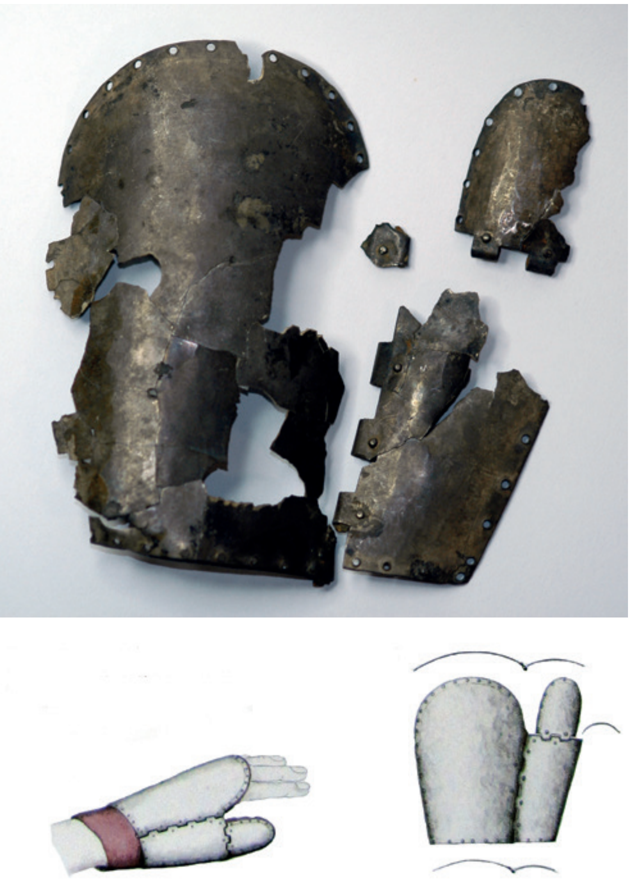


Fragments, and reconstruction sketches, of a Roman heavy gauntlet (*cheiromanikon*) from Sochi, southern Russia. The plates and fastening buckle were found near the village of Lesnoye during illegal amateur excavations in the early 2000s, but are now in the care of the State Historical Museum, Moscow. Judging from the buckle, these finds should be attributed to the second half of the 6th or early 7th century. (Private collection; author's photo, and reconstruction, courtesy of Dr Aleksej V. Baryshev)

presence of two *ilarchai* or *hekatontarchai* officers at the flanks of the formation, we can argue that the *vándon* was composed of three sub-units, each 100 strong. It is clear that not all of the horsemen in a *vándon/tàgma* were completely armoured, and the men of the middle ranks were armed with bows or lighter weapons than those of the front ranks.

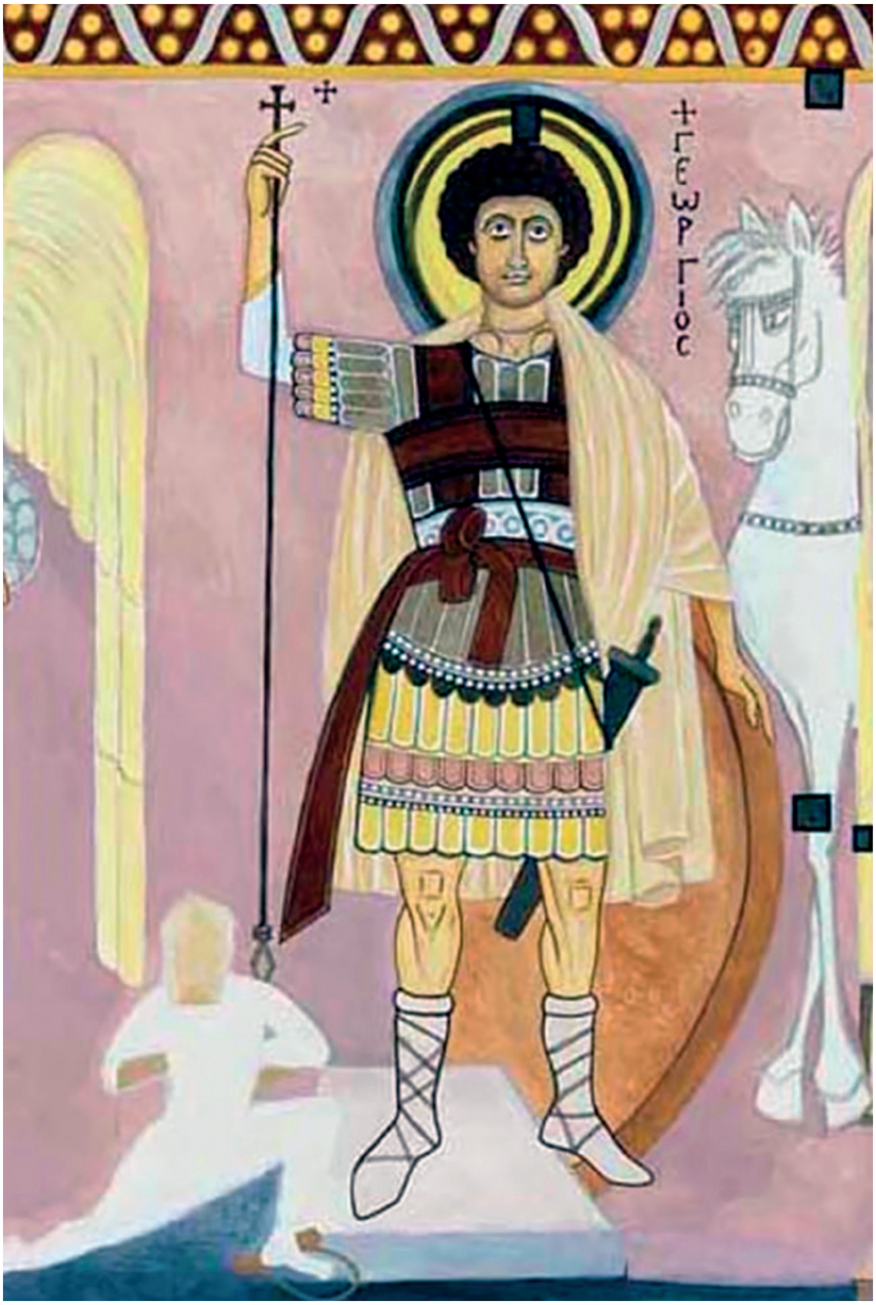
In the late 6th–early 7th century, Pseudo-Mavrikios states that the *bucellarii* were considered among the real core of the army, the *epílektoi* (chosen horsemen) being divided into *epíitimioi*, *spatharioi* and *bucellarii*. The latter formed the bodyguards, perhaps 600 strong, of *strategoi* and *merarches*. Notwithstanding their modest numbers, they were brave and experienced fighters, ready to sacrifice themselves for their commanders; they were splendidly equipped, extremely well paid, and enjoyed other advantages, such as having servants to perform the functions of squires.

According to the contemporary *Strategikon,* about 300 *bucellarii* formed the *tàghma* of a *strategos*, but we can add to these the escorts of the three divisional *merarchai*, so totalling some 600 men in any one army. Their ethnic composition was very heterogeneous: 'Romans' (including Cappadocians, Thracians, Psidians, Greeks and Latins), plus Persians, Armenians, Huns and Goths.

Following the system of that period, the state paid for their clothing, equipment, horse harness, board and lodging. Usually a trooper's two horses, his weapons, and the maintenance of his servants (*tà phamiliarik*á) fell to his own expense. Much equipment was carried on the carts of the army's baggage train *(touldon)*: spare bows, arrows, armour, hide cases for the *lorikia* (ring-mail armour; *Strategikon,* 20, 337), helmets *(kassida)*, standards and tents, axes and scythes, all under the care of military servants.

The reforms of the *Scholai* by Constantine V, probably in 767, marked the introduction of new and more effective cavalry forces. The old *Scholae Palatinae* of the Late Empire revived their previous glory together with the old Palatine *Eskoubitores,* now alongside the new Taghmatic (roughly, 'imperial guard') regiments successively created by Irene or Nikêphóros I (the *Ikanátoi*). The sources give us some idea of the organization of such regiments thereafter.

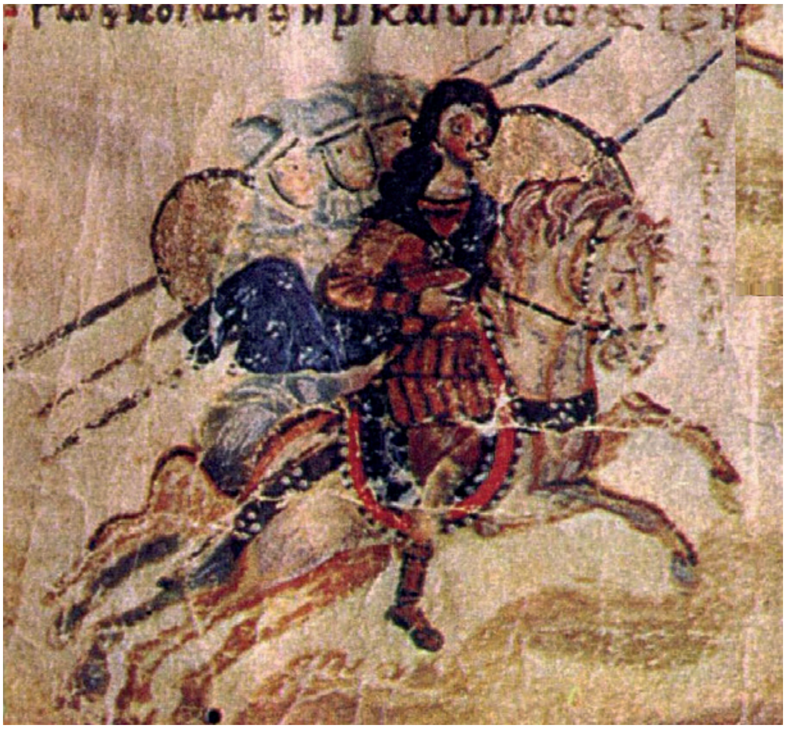
In the 10th century the *Tághmata* were mainly composed of five elite regiments (here the various spellings are deliberate): the *Skhólai*, the *Exkoúvitoi*, the *Ikanátoi*, the *Arithmós* or *Vighles* or *Vighla*, to which were added, in 970, the *Athanatoi*. Beside these the *Tághmata* of the *Strathelatai* and *Satrapai* evolved, forming together the elite armoured cavalry of the Eastern Empire at the apogee of its revived strength.



Reconstruction of mural of St George from Bawit, Egypt, first half of 7th century. (ex D'Amato-Pflaum, 2020)

The *Life of St Iohannicius* (p.334), relating to the later 8th century, mentions at least 18 *vánda* of *Eskoubitores:* 'when he was 19 years old [*c.* 773] he was enlisted by the emperor in the regiment of the Eskoubitores (ἐξκουβιτόρῶν τῶν στρατίαν*)*, in the eighteenth *vándon*'). Therefore, for the period between the 8th and 10th centuries we can consider a total number of 900 *Eskoubitores* as reasonable. In 949 the *Liber de Ceremoniis* mentions 700 *Eskoubitores,* including officers, in Constantinople; however, sections of this *tághma* were also located in Thrace and Macedonia.

According to the treatise of Nikêphóros Ouranós, during the 10th century the *Skhólai* were organized in 30 *vánda*. The *vándon* or *tághma* was still the



'Absalom pursues David', a miniature from the Chludov Psalter (folio 3r) of 829-837. (Original in State Historical Museum, Moscow; facsimile edition, author's collection)

tactical unit, with a variable strength: 300–400 (according to the *Taktikà* of Leo the Wise, and the roughly contemporary *Sylloge Tacticorum*), but only 50 (according to the *Praecepta Militaria* of the Emperor Nikêphóros Phokás). In the case of cataphract units 50 men for each *vándon* seems more probable, giving a total of 1,500 *Skholárioi*.

Besides the elite regiments of the *Tághmata*, the second nucleus of the heavy cavalry had been furnished since the late 7th century by the Thematic armies, i.e. those of the different provinces or *Themata*. Their organizational structure was the same, although the term *merarchēs* became used less frequently, in favour of *tourmarchēs*; likewise, the *tourma* replaced the *meros* both in technical and common parlance to signify a cavalry division. At the time of Leo the Wise (886–912) both terms were used interchangeably, although the *tourmai* were now the major territorial and tactical subdivisions of a provincial army corps. Each *thema*, under a *stratēgos*, was normally divided into three *tourmai*, which in turn were further divided into *dhroungoi* (analogous to the old *moirai*) and then into *vánda*, of which some were heavy cavalry.

Nikêphóros Phokás, on the occasion of his campaigns against the Arabs, increased the number of Taghmatic *vánda* by strengthening the heavy cavalry – perhaps those called in contemporary sources *klivanophóroi* (i.e. horsemen wearing the heavy armour called the *klivánion*). There were probably three such units in the whole *Tághmata*, each varying between 384 and 504 men. The same proportion was probably found in a Thematic army. (These troops are not mentioned in the *Praecepta Militaria*, but only in a separate short work by Phokás. According to Wojnowski, they should be understood as being squires. While squires certainly accompanied heavy troopers, the present authors believe that in this case the use of the term '*stratiotes*' or 'soldiers', and a passage regarding legal terms of land grants, argue against Wojnowski's interpretation.)

According to Dennis, the military treatise of Ouranós dating from *c.* AD 1000 (translated by Vari as an anonymous book on tactics) was composed on the occasion of the imperial campaigns against Samuel in northern Bulgaria. It tells us that the emperor deployed light and heavy infantry and cavalry: among them, the Thematic cavalry and the Taghmatic *Scholai*; the Imperial Guards of the Great *Hetaireia* and the *Athanatoi* (the 'Immortals'); the *arkontes tou Stablou*, the *Anthropoi Vasilikoi*, and the *Pantheotai* (a sort of imperial guardsmen of officer rank). The regiments of the *Tághmata* within which units of heavy cavalrymen operated are recorded as: the *Tághma* of *Skhólai*; *Tághma* of *Athanatoi; Tághma* of *Eskoubitoi* of *Hellas; and Tághma* of the *Ikanatoi.*

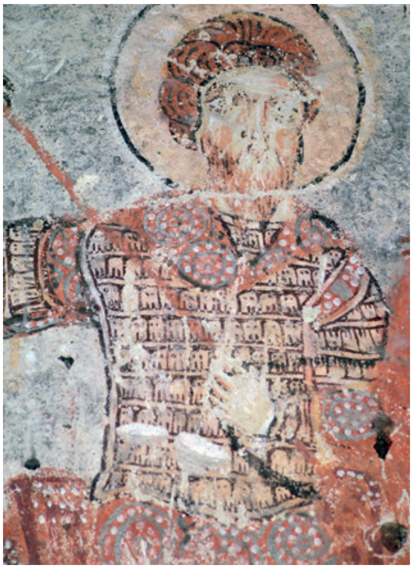
During the 10th–11th centuries the rank structure in all the guard regiments was more or less the same. Since the reforms of Constantine V in 767 the commander of the *Skhólai* had the title of *dhoméstikos*; from that time on he was the most senior officer of the whole imperial *Tághmata*, and supreme commander of the Roman army in the absence of the Emperor. A *dhoméstikos* also commanded the *Eskoubitores*, the *Ikanatoi* and the *Athanatoi,* while a *dhroungários* commanded the *Vighles*. The deputy commander of the regiment was the *topotêrêtes* (of which the *Skhólai* had two). Under them, individual *vánda* were led by a *chartoularios, kómites* (in the *Skhólai* and *Vighles),* or *skribones* (in the *Eskoubitores)*. In the *Ikanatoi* and *Vighles* the *kentarchai* commanded units of 100 men. Trying to establish exact hierarchies of rank is difficult due to the use of different titles in different sources. Within the *Skhólai* we find mention of the *proximos*, and in the *Eskoubitores* and *Ikanatoi* the *protomandàtor.* Junior to them were the *offikialoi* standard-bearers of the regiments: in the *Skholai* these were termed *protiktores*, *eutychophoroi*, and *skeptrophoroi;* in the *Eskoubitores*, the *drakonarioi, skeuophoroi, signophoroi* and *sinatores;* in the *Ikanatoi*, the *bandophoroi, semeiophoroi,* and *doukiniatores;* in the *Vighles* the same, and also *lavouresioi;* and under them the *axiomatikoi* and *mandátores*.

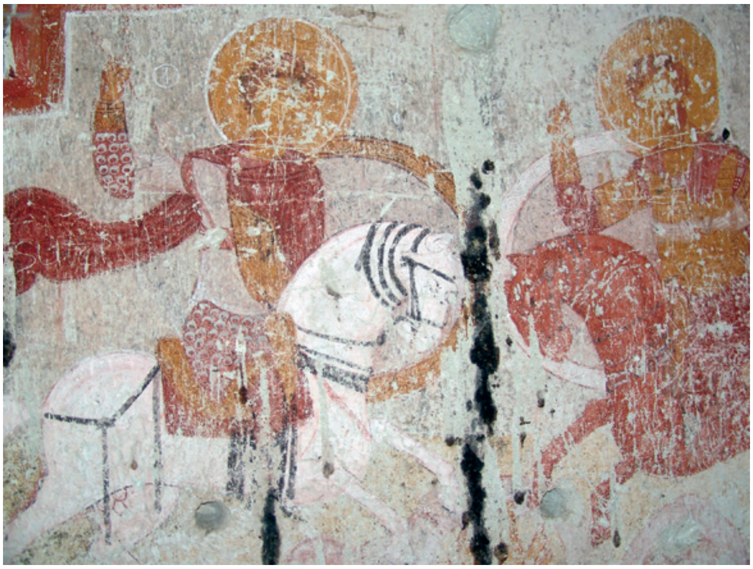
Units of the *Tághmata* were still operational throughout the 11th century; the *Excubitae,* for instance, were recorded at the battle of Dyrrachion in 1081, and the *Hetaireia*, the *Scholai* and the *Ikanatoi* elsewhere. In the reformed army of Alexios I Komnenos regiments of heavy cavalry were represented by the 'Immortals' again, this time recruited by Nikêphóros III in 1078 from the remains of eastern *Themata* and new recruits; by the *Archontopouloi* (ἀρχοντόπουλοι), 'the sons of the officers', a *tághma* of 2,000 cavalry raised by Alexius I from officers' orphans in 1090–91; and by the Household *Vestiaritae*.

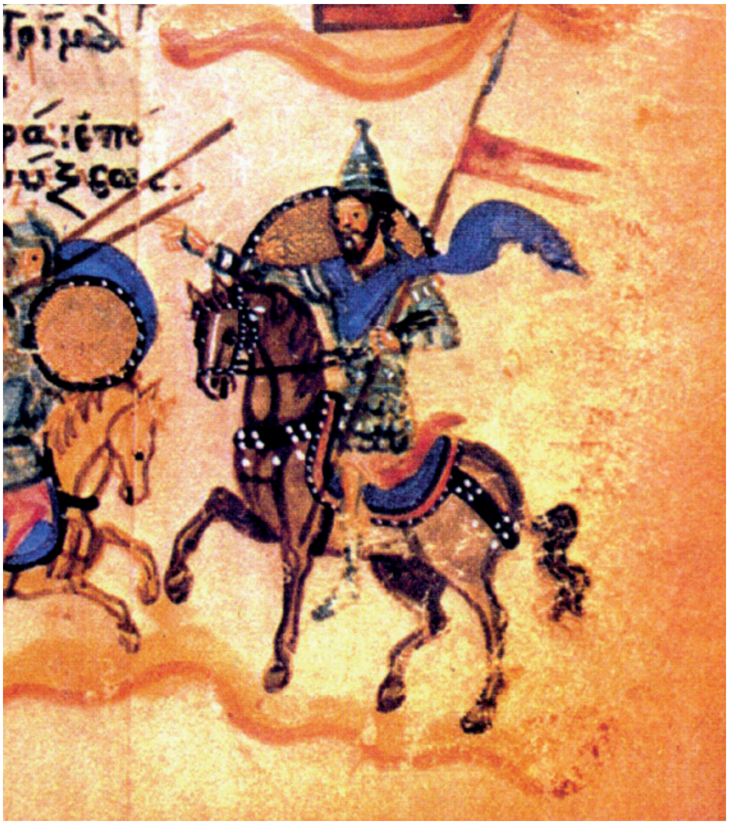
In the provinces, from the last quarter of the 11th century the system of *Pronoia* (estates held by quasi-feudal tenants who performed military service

BELOW LEFT
Detail from mural showing St Theodore Stratilates as a Roman *katáphraktos* wearing lamellar armour; mid-11th century. (Chapel of St Basil, Göreme, Cappadocia; author's photo)

BELOW RIGHT
Sts George and Theodore as Roman *katáphraktoi,* *c.*1075–1100. (Yusuf Koç Kilisesi Monastery, Göreme, Cappadocia; author's photo)







Detail from 'Victory of David and Joab over the Edomites' on folio 58r of the Chludov Psalter, dating from 829–837, showing an armoured horseman who flies a two-tailed red pennon from his lance. (State Historical Museum, Moscow; after D'Amato, 2015)

in exchange for a state land-grant) supplied the ranks of cavalrymen termed *pronoiarioi*. Many of these were armoured and equipped as heavy cavalry. From this time until the end of the 14th century, cavalry units or contingents were called *allàghia – allaghion* being a generic term for 'unit' or 'squadron' – and averaged 300–500 men. Interesting but confusingly contradictory passages in the 15th-century *Achilleis* (vv. 365–370, 430–439, 445–446, & 471 ff) suggest that an *allaghion* of elite heavy cavalry might consist of anything between 30 and 300 troopers, plus the officers (*archontes*).

FORMATIONS & TACTICS

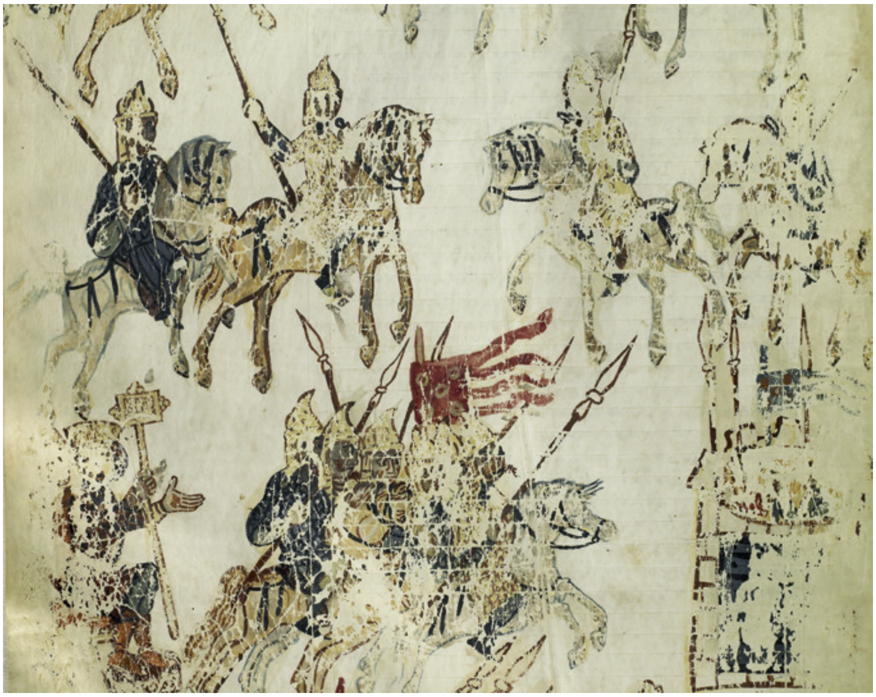
In the 6th–7th centuries the cataphracts formed the shock force of field armies. Of particular interest is the description by Procopius (*De Bello Vand.*, II, 3, 9) of the Roman battle array at Tricamarum (533), in which the decisive elements seem to have been the cataphracts of the *Magister Militum* Johannes together with the *Bucellarii* of the general Belisarius. They were supported, in depth, by the heavy infantry, and flanked on the right side by other cavalry and on the left by other infantry. Making three successive attacks, Johannes was able to crush the centre of the Vandal battle array.

The term *katáfraktoi* appears in the anonymous treatise on strategy called *Perì strategías* or the *Military Compendium of Syrianus Magister,* although scholars are uncertain if this dates from the 6th century, the 8th, or even later. According to this source, the heavy armoured *katáfraktoi* were placed on either side (or sometimes on one side only) of a solid infantry formation. In battle, the cavalry were arrayed in *táxeis* or *akíai* (from Latin *acies*). Three *táxeis* formed the core of the array, each *vándon* including lancers and, in the centre ranks, unshielded archers. In the battle array of the cavalry army offered by the *Strategikon*, the heavy cavalry seem to be positioned at the centre of the *stratós*. On several occasions heavy cavalrymen are described as fighting individual duels between champions: for instance, the *bucellarius* Anzalâs against the Goth Kokas, at the battle of Busta Gallorum in 552, and even the Emperor Heraclius, against the enemy general Razhatis at Niniveh in 627.

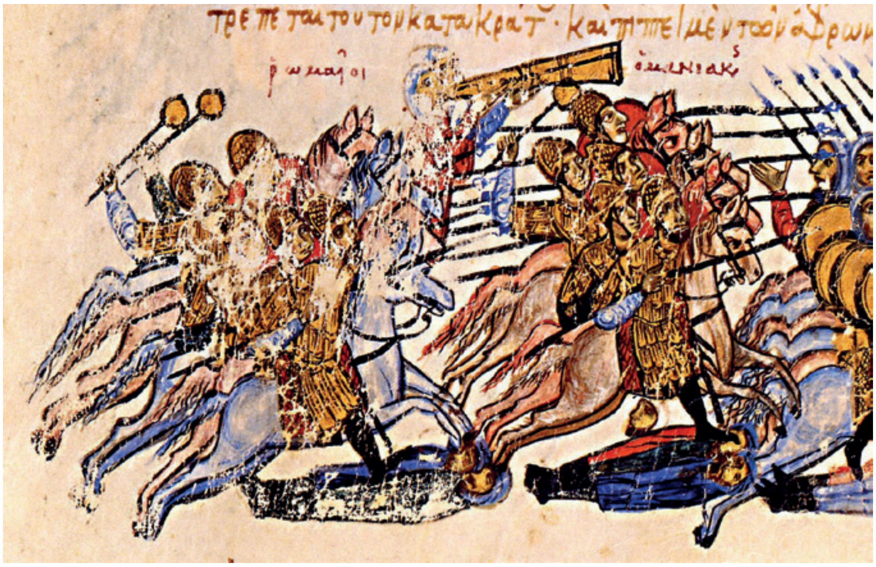
The *katáfraktoi* of the 10th century applied the same tactics as their forebears, fighting in the wedge-shaped or triangular formation ascribed to the ancient *clibanarii* (τρίγωνος παράταξίς, PM III,1). Like all heavy cavalry, the *katáfraktoi* employed ponderous, inflexible tactics that required intensive training and ideal conditions to succeed. In the 10th–11th century 'age of reconquest' it is clear that their main function was to smash through the enemy's heavy cavalry or infantry line, breaking up their formations and allowing the supporting cavalry to turn the flanks of the disordered lines. In the treatises of Phokás and Ouranós we read that 'The commander should have the triangle of the *katáphraktoi* with his two escorting units ready, and send them out from the square on the side facing the enemy' (PM II,111–124; TNO 57,133–152). Both treatises (PM, IV,137–150; TNO 61,192–219) stress the terror inspired by the impact of the *katáphraktoi*: 'If the enemy stands firm as the *katáphraktoi* draw near, then once their arrows begin to fall on the front ranks of the *katáphraktoi* the mounted archers must begin shooting back at the enemy. The *katáphraktoi* must proceed at their steady pace and crash into the enemy's commander's unit, while the outflankers encircle the enemy. With the aid of God the enemy will be routed by the *katáphraktoi,*who will smash their way into and through the defenders'.

The triangular formation of the *katáphraktoi* was the centrepiece in the front line of the battle array. It stood 12 ranks deep, with each successive rank adding two men to each flank. The first four ranks were to be composed of riders wielding iron maces; from the fifth to the twelfth rank, the two horsemen on each flank alternated between lancers and troopers armed with swords or maces. Protected in the middle of the triangle there were mounted archers. Dennis calculates that a large wedge comprised 500 men, of which about two-thirds were the real *klibanophoroi/ katáphraktoi*, and the rest more lightly armoured mounted archers.

The objective was to kill or capture the enemy commander, since this, or even his flight, would have serious consequences for the enemy's morale (PM, II,111–124; TNO, 57,1 33–152). 'Even if the enemy lines are composed of heavy infantrymen, the *katáphraktoi* must not be afraid, but should proceed very calmly in good order and aim their charge right at the enemy commander'. In such a case the whole cavalry army (the heavy cavalry, the commander's escort units, the light *prokoursatores*, outflankers and flankguards, and the rest) moved in unison. Two units of *prokoursatores*



Greek and Trojan warriors of the Trojan War, as depicted in the second half of the 12th century; note the red standard with four flame-like streamers. (MS Venetus A, *Iliad Marciana*, folio 8; Biblioteca Marciana, Venice; author's photo, courtesy of the Library)



Katáphraktoi led by the general George Maniakes at the battle of Troina, 1040, depicted in the second half of the 12th century. Accounts of the battle stress the impact of the Roman charge, which demolished the Arab line. The saddles are almost all shown with a supportive cantle, normally associated with the straight-legged riding position. In combination with sturdy stirrups and a curb bit, this favoured the use of the couched lance in the Western manner; this can be seen in some battle scenes in this manuscript, as are helmets with scale or fabric neck-guards. Note at left what appear to be maces with spherical heads. (Skylitzès Matritentis MS, folio 213r; ex D'Amato, 2011)

protected the flanks of the *katáphraktoi*, to prevent the enemy disrupting their properly-ordered charge, while the outflankers encircled the enemy (PM IV,120–137; TNO 61,172–192). Nikêphóros Phokás was emphatic that nothing should delay the steady advance of the heavy cavalry (for instance, he prescribed severe punishments for any who halted to loot enemy corpses in battle).

In cases when the Roman infantry were already engaged by the enemy, and the heavy cavalry could not perform its usual charge by passing through the intervals between infantry units, the recommendation of Nikêphóros Phokás was that the *katáphraktoi* should head out through the intervals on the flanks of the infantry, keeping their proper formation, together with their two supporting units of *prokoursatores* (PM, II,133–139).

Commanders were aware that seeing the impact created by the charge of the *katáphraktoi* was important for maintaining the morale of their other troops. For example, at Dorostolon in July 971, Leo the Deacon (VIII, 133–134, p.180) notes that the lengthy and bloody battle between the Romans and Sviatoslav's 'Rus' was resolved only when the Emperor

C

THE 8th–9th CENTURIES

(1) *Katáphraktos* of *Exkoubitores* regiment, early 8th century

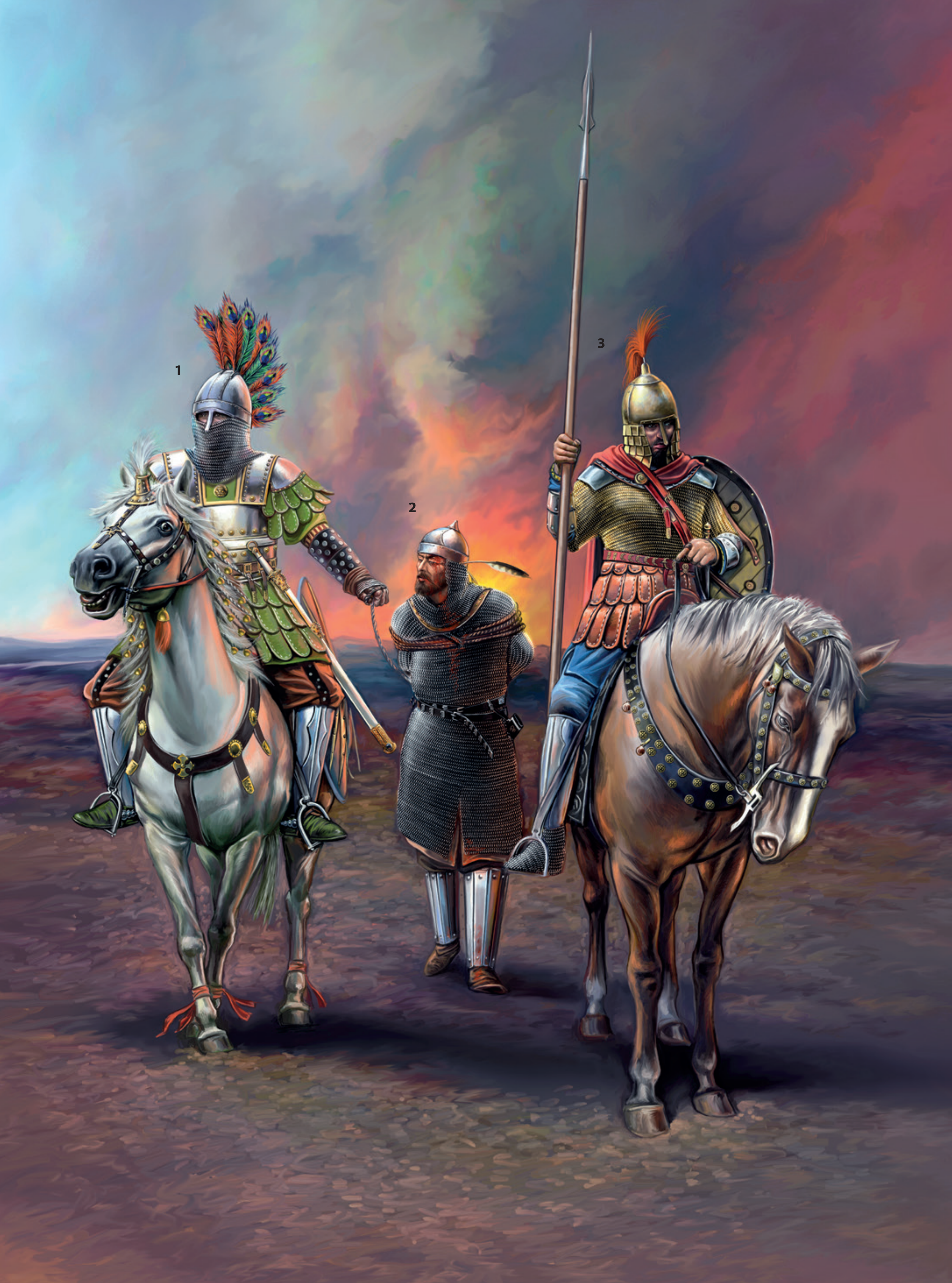
This elite imperial guardsman is reconstructed from paintings in the Church of Sta Maria Antiqua in Rome, dated to AD 705–707, and from equipment found in the Cripta Balbi. His iron helmet, of two-piece construction with a riveted band from brow to nape, follows Late Roman tradition. Its riveted nasal bar and attached mail covering the face and neck are based on an 8th-century Eastern Roman specimen found in Praha-Stromovka. The plate armour (*sidherotoraka*) is confirmed by 8th-century sources, artistic works, and archaeological fragments. The armour of wealthy officers was often embossed with precious metal decorations in the form of small animal or human heads. Note the bosses on his fabric forearm protection, and his expensive sabre (*machaira*) copied from a Crimean specimen.

(2) Bulgarian *boyar*, early to mid-8th century

This figure is reconstructed from finds among the Nagyszentmisklos treasure. The Bulgarians were allied to the Empire against the Arab attacks in 717, and their noblemen wore armour like that of the Eastern Roman *katáphraktoi*, combining ring-mail, scale, and splint protection.

(3) *Ippeus* of the *Ikanátoi* regiment, 801

From miniatures in the Vatopedi and Chludov Psalters, realized in Constantinople early in the 9th century and therefore mirroring, in all probability, the equipment of the imperial *Tàghmata* units. The interchange of military technology between the Roman and Khazar empires is reflected in his shoulder-guards, arm protectors (*cheiropsella),* and greaves (*podopsella*), from Gelendjik in the Kuban region. The mail protection of the feet is from Bulgarian finds in the Kyulevcha necropolis.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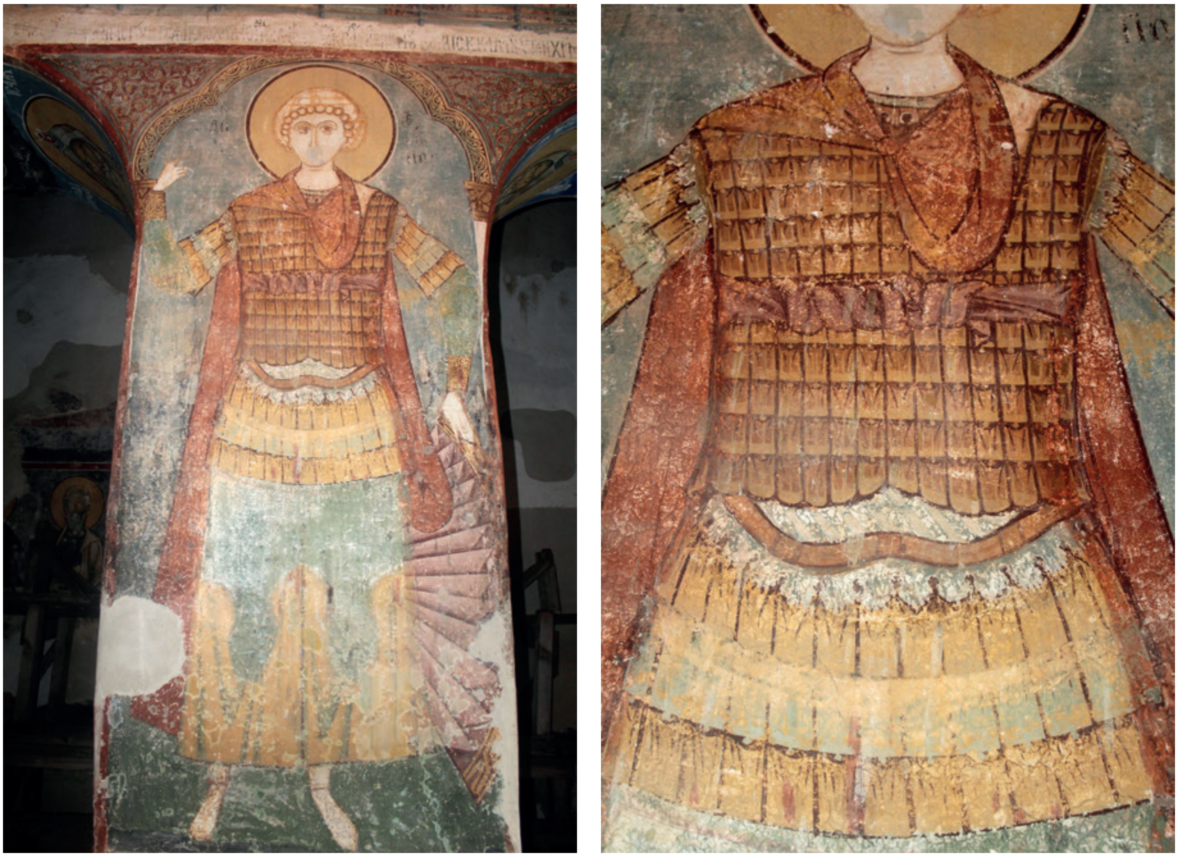


Another depiction of St George as a *katáphraktos*, this one dating from 1266. The short corselet is still lamellar, worn over a garment terminating in a row of lappets over three ranges of *pteryges.* (Church of St Nicholas, Mariovo; author's photo, courtesy of the Abbot)

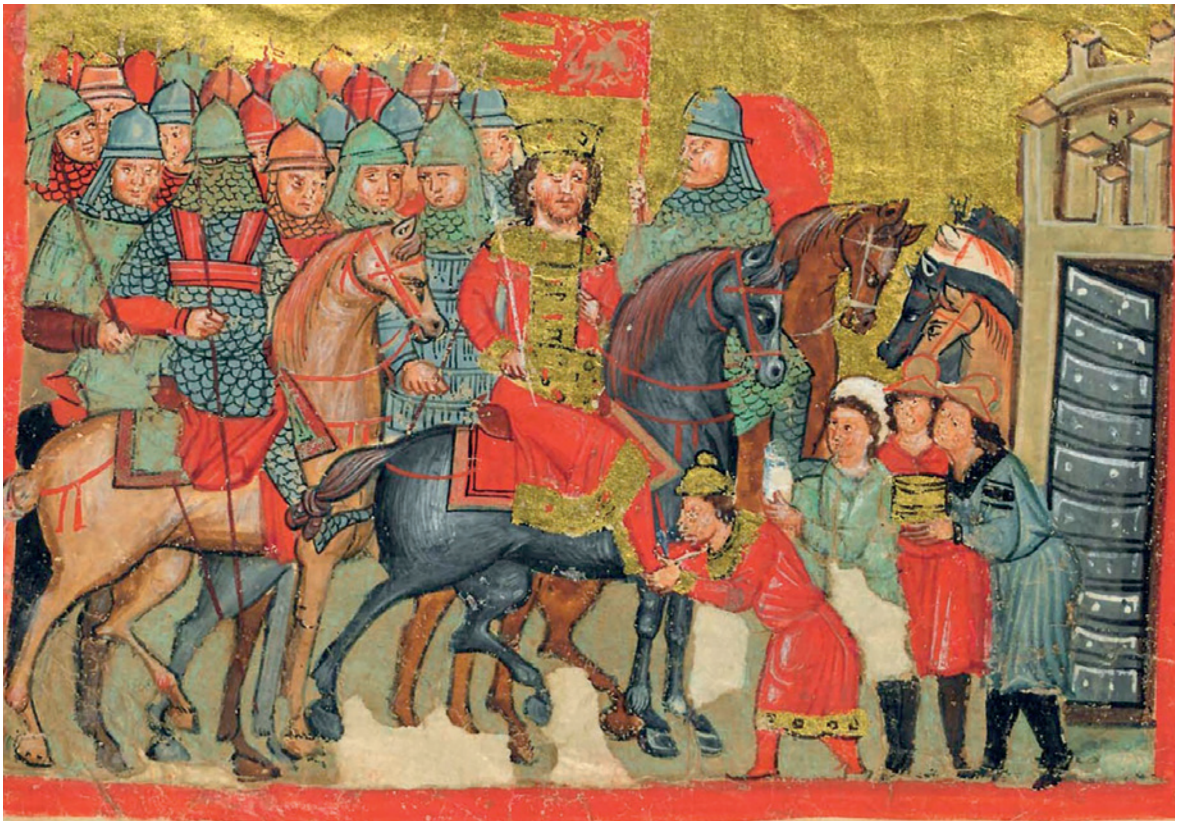
John I Tzimiskès sent against the enemy his 'iron-covered horsemen' (πανσίδηροι ιππόται), in particular the *Tághma* of the *Athanatoi*: 'When the battle was evenly balanced on both sides, at this point the emperor ordered the Immortals to attack the left wing of the Scythians *[sic]*with a charge. So they held their spears before them and violently spurred on their horses, and advanced against them. Since the Scythians were on foot (for they are not accustomed to fight from horseback, [and] are not trained for this), they were unable to withstand the spears of the Romans, but turned to flight and shut themselves up within the walls of the town; the Romans pursued them and killed them mercilessly'. Their deployment buoyed up the weary spirits of their troops while grinding down Rus morale, thus prompting an overwhelming mass charge by the Roman army (Leo the Deacon, VIII. 9–10, 140–141). After this battle the Rus feared to confront the Romans again, 'for they were unable to contend with ironclad horsemen' (IX, p.151).

McGeer observes that the deployment of the *Athanatoi* at Doroloston shows a slight change from their previous tactics. Tzimiskès placed the ironclad horsemen not in the centre but on either wing of the array, and 'assigned the archers and slingers to the rear, and ordered them to keep up a steady fire' (i.e. over the heads of the troops in front). This was in keeping with a recommendation of Nikêphóros Phokás in his *Praecepta*. The tactics prescribed by Phokás and Ouranós are corroborated by other passages of Leo the Deacon. At the battle of Tarsus in 965, during the war against the Hamdanids, the *katáphraktoi* stood in the front line between units of other horsemen led by Phokás on the right wing and Tzimiskès on the left. The use of archers from behind the advancing heavy-armoured cavalry is also in accordance with the directive to have mounted archers inside the wedge formation. There is a strong similarity between Leo the Deacon's account and the description of heavy armoured cavalry tactics given by the anonymous author of the *Perì strategías*, which argues for tactical continuity since the 6th century.

William of Apulia (I, 267 ff.), writing of the battle of the Olivento between Eastern Romans and Normans in 1041, observed a practice that often induced the Romans' enemies to flee the field: 'A column of Greeks [Roman troops] was sent out against them, for it is not their custom to engage all their forces at the first shock; they rather send another unit after the first, so that while the enemy weakens their own strength increases and their troops are emboldened. So, when their cavalry commander sees the enemy resisting, he makes a sudden attack with the bulk of the remaining elite troops, thus restoring the morale of his own men and usually driving the enemy back in flight'.

The crack troops mentioned by William as delivering the coup de grâce were the heavy cavalrymen, about whom he uses very specific language. A unit deployed in a wedge formation (the medieval Greek *trigonos parataxis*) is mentioned as *cuneus Graecorum*. William writes of cavalrymen personally selected by the army's leader (*equitum princeps magis electo*, d 272–3) engaging in a forceful and irresistible charge (*viresque retundere prorsus*, d 274). Just as in Leo the Deacon's description of Dorostolon, he emphasizes (I, 275,114) the important lift to the army's morale (*animo reparando*

'The army of Alexander in front of Thessaloniki', a miniature from the Alexander Codex of *c.* 1350. This important illustration shows (left) the use of a helmet with face-protection of scale construction. Note also the various types of armour: lamellar, scale, and splint. (Codex Matritensis Graecus 5, folio 36v; original in Biblioteca dell' Istituto Ellenico di San Giorgio dei Greci, Venice; facsimile edition, author's collection)

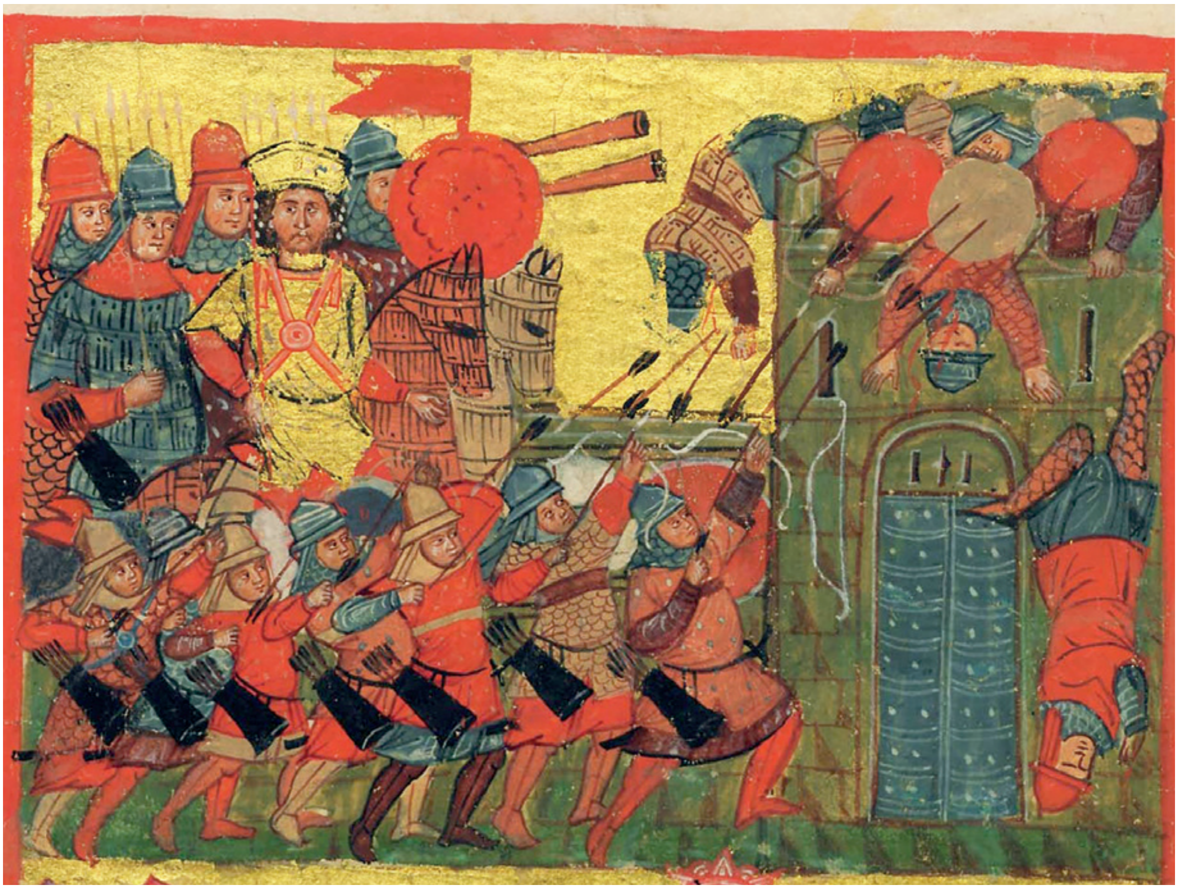


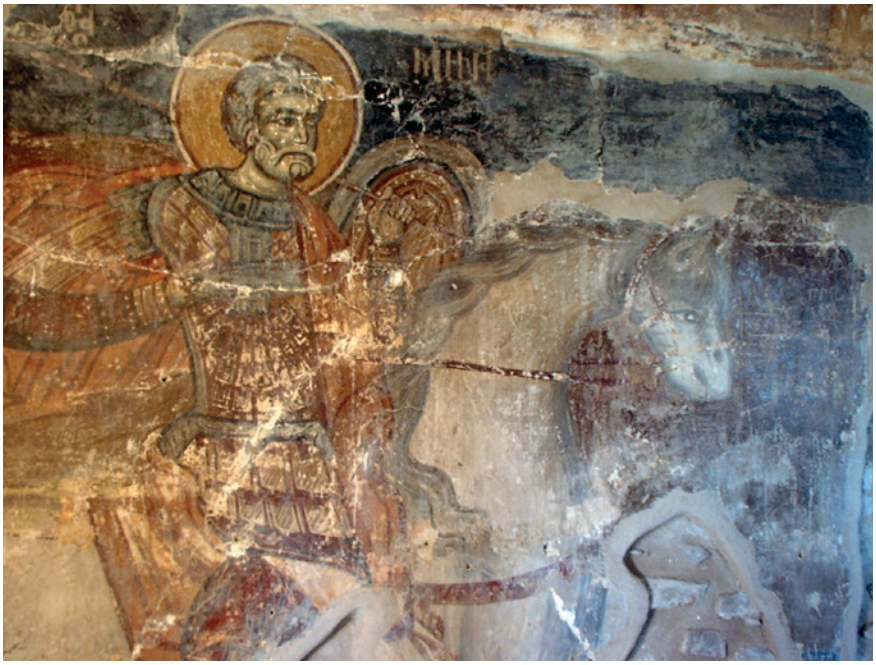
suorum) delivered by the example of the *katáphraktoi*. Elsewhere (GRW IV, 355, 6, 222 & 361, 2, 224) William states that the Normans had a healthy respect for the Eastern Roman wedge. Before the battle of Dyrrachion in 1081, Robert Guiscard, notwithstanding his confidence in the prowess of his 'elite cavalrymen', advised them not to be overly daring (*temerarii*) when engaging Alexios' 'hostile wedge' (*hostile cuneos*).

In his *Tactica a*t the beginning of the 11th century, Ouranós generally retains the same precepts on tactics and formations as Nikêphóros Phokás. He recommends, however, that 150 *katáphraktoi* accompanying infantry on a raid into enemy territory should act like the detachments of more mobile light cavalry, and that 40 or 50 of them should leave their armour and that of their horses with the baggage train (TNO, 63).

Thanks to John Cinnamus, we possess an excellent description of the tactical organization of the Roman forces 150 years later before the battle outside the walls of Constantinople in September 1147 (Cinnamus, II,15): 'They were organized as follows: the most unwarlike common part of the army stood far forward in four units; thereafter, the well armed and mounted; after these came those riding swift-footed horses; and finally, at the back of the army were the Scythians and Persians as well as the Roman archers. Thus, the least warlike ones formed a screen in front of the whole army [and] behind them stood the *katáfraktoi [sic]*, the heavy-armoured cavalry'. It is noteworthy in this 12th-century description that the light cavalry and mounted archers were positioned behind the *katáfraktoi*, who were placed in the centre of the battle array.

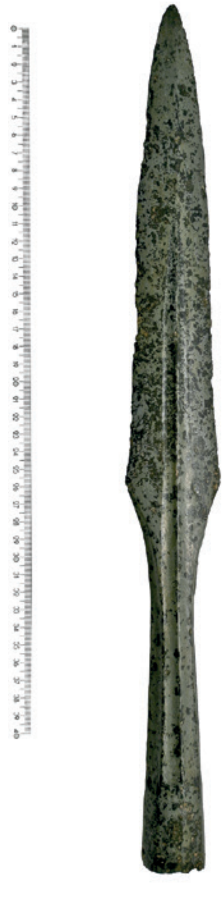
Another miniature from the Alexander Codex, *c.*1350, showing 'The army of Alexander in front of Afin'. This is one of the few examples of Eastern Roman art to show fully protected horses; the *petala* (scales) are probably made of horn or leather, as described in tactical manuals of two centuries earlier. (Codex Matritensis Graecus 5, folio 39r; original in Biblioteca dell' Istituto Ellenico di San Giorgio dei Greci, Venice; facsimile edition, author's collection)





In a 15th-century image from the last years of Roman Byzantium, St Menas is depicted as a heavy cavalryman. (*in situ* Panaghia Koumpelidiki, Kastoria; author's photo)

Head of heavy cavalry lance (*kontarion)*, 10th century, from Varna region of Bulgaria; present location unknown. (Photo courtesy of Prof Valeri Yotov)



From 1071 onwards some heavy cavalry units still included horse-archers as well as lancers (for instance, the *Athanatoi*), but the reforms of Manuel I Komnenos (1143–80) were mainly responsible for their gradual disappearance. While some sources still mention heavy cavalry archers even at the end of 12th century – as in the army of Isaac Komnenos in Cyprus in 1191, when even the usurper himself was thus equipped – most of the heavy cavalry were now lancers.

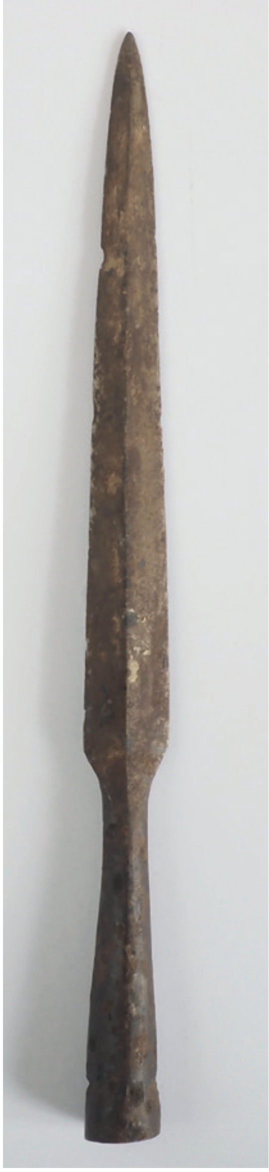
Another 150 years later, when fighting the brigand leader Momčilo – on whom he inflicted utter defeat and his fatal wound near Peritheorion, Asia Minor, in 1345 – the future Emperor John VI Kantakouzēnos gathered his troops in three *tághmata*. On his left he placed the allied Omur and his Persian (Turkic) archers. On the right, his brother-in-law, John Asen, commanded a body of heavy cavalry which included mail-clad Roman *cataphracti* (Kant. 2, 532.16–25). The best troops from both contingents were assembled in an elite division at the centre of the Roman battle array, thus forming again the old combination of heavy lancers with archers. Kantakouzēnos personally led these chosen troops; at this date the terms used (λογάς, κατάφρακτος and καταφράσσω) can be considered as indicating armoured cavalry, so once again we find the elite horsemen positioned at the centre of the army.

WEAPONS & ARMOUR

Spears

In the 6th century the long *kòntos* lance remained the primary weapon of the heavy cavalryman. Its length can be estimated as at least 2.5m (8ft), from such varied sources as Procopius' description of a single combat (*Bel. Goth*. III. 4. 21–29), and the proportions of figures on the contemporary silver dish from Isola Rizza, Italy. According to the *Strategikon*, this *kontárion kaballarikón* should have a leather thong (*loríon*) attached to the middle (VIIbis,17), 'following the Avar way', and be fitted with small pennons (*phlámmoulai*). According to Leo's *Tactikà* also, the heavy cavalrymen should have short lances with thongs and pennons (Leo, *Tact.,* VI,2). The latter (*flamoula* or *vanda*) had a practical function, distinguishing units or sub-units by shapes and colours. However, some manuals recommend that, before battle, they should be detached and stowed away in cases (*thekaria*), so that they did not hinder archers shooting from behind the lancers.

The 10th-century *Sylloge Tacticorum* (ST XXXI, 1) states that the lance of the *katáphraktos* was not less than 2½ cubits long, so about 3.75m (12 ft), the length of the iron head being one span, i.e. 23.4cm (9 inches). This massive weapon was still in use in the 11th–12th centuries, and – alongside shorter Italian and Frankish spears – during the 13th–14th centuries. The heavy cavalry of Kantakouzēnos at the battle of Peritheorion in 1345 are described as 'accustomed to fighting with the long spears (κοντοῖς)'. Long lances in the hands of the last elite Roman cavalry in the mid-15th century are recorded by the Turks. The use of such *kontári* in the 'European way' is also confirmed in poems (*Achilleis*, v. 123).



Cavalry lance head in iron alloy, now with roughly foliate blade of diamond cross-section, from Bulgaria; it has been variously dated to any period between the 8th and 14th centuries. Total length 27.4cm (10.2 ins); blade 18cm (7 ins), maximum width 22.5mm (0.8 in); socket diameter 20mm (0.78 in); weight 162gr (5.7 oz). (National Archaeological Institute & Museum, Sofia, inv. no. 465; photo courtesy of Prof Valeri Yotov)

Swords

The panoply of the Roman heavy cavalryman of the 6th–7th century also included a long, straight sword (*spathíon*), worn from a baldric over the right shoulder to hang on the left. The shape of such swords is well known from the archaeology: for instance, examples with bronze guards found in Corinth (type Aradac–Corinth–Pergamon); swords of Avar typology with a P-shaped double fastening system; or exceptional specimens, like the long Persian-influenced weapon found at Aphrodisias. Others simply continued the technology and shape of the Late Roman *spatha*.

In the 9th–12th centuries Eastern Roman swords fell into two main groups. The iconography mostly shows horsemen with the long, straight *spathion* descended from the Late Roman *spatha*. Apparent lengths of 85–115cm (33–45 ins) accord well with archaeological finds. The *Sylloge Tacticorum* (ST XXXI, 1; XXXIX, 2) prescribes the length of a horseman's double-edged sword, including the hilt, as no less than 4 spans (1 span = 12 fingers = 23.4cm = 9 inches). From this we may calculate the length of a Roman cavalry sword in AD 900 as between 93.6cm and 110cm (36.8–43.4 ins), including a hilt length of about 16cm (6.3 inches). A sword recently found near Galovo in Bulgaria accords with this; it also lacks a fuller, which Al-Kindi mentions in the first half of the 9th century as characteristic of Eastern Roman blades. The Galovo sword has a straight, cast-bronze cross-guard 13cm (5.1 ins) long, with ovoid collars both above and below. Primarily based on visual sources, V. Votov and M. Aleksic have recently recognized collared cross-guards as variant characteristics of Roman swords ranging from the 7th to the 12th centuries.

In the same passages of the *Sylloge* we read that in addition to this double-edged sword the *katáphraktoi* were also equipped with single-edged swords, hanging down the thigh from a waist belt, and termed either *paramhria* or, specifically, *parameria* ('at the thigh'). The Emperor Leo VI (*Tact.,* VI, 2) writes that they 'have swords slung from their shoulders according to the Roman custom, and *paramhria*, that is swords carried from the belt'; and perhaps 70 years later, Nikêphóros Phokás (PM XI, 33) repeats that the *katáphraktoi* carried *spathia*, and some of them also *parameria*. The latter may perhaps have included, from the 8th or 9th centuries, Turkic single-edged sabres associated with Roman contacts with, or employment of, Khazars or Magyars. While the *paramhria* seems to have been a secondary weapon in the 10th century, in the 12th–14th centuries heavy cavalrymen are usually described or depicted with a single sword, and a long sabre may to some extent (but not as a rule) have replaced the double-edged *spathion*.

Knives

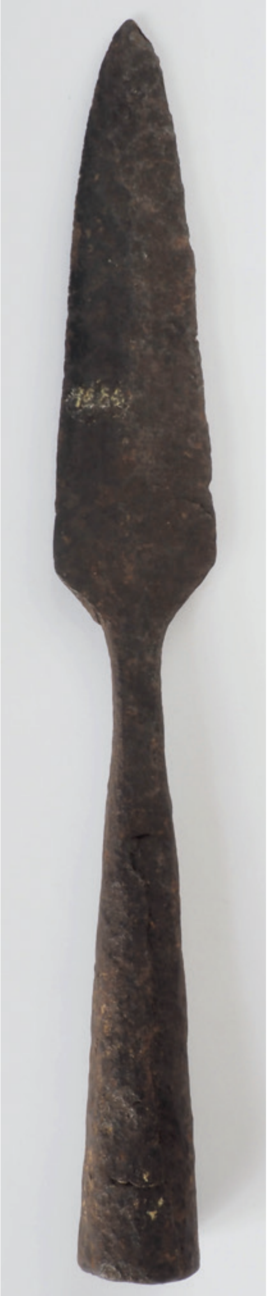
Knives – mentioned in the sources as *macairion*, *mikra macaira*, and *bouglion* – were naturally used for the most diverse purposes. Although they could obviously be lethal weapons, they seem mostly to have been regarded as necessary tools in the soldier's kit. The *Sylloge Tacticorum* (ST XXXIX, 5) recommends the heavy cavalry archer to carry *macairia* (plural, so at least two) tied to the straps of the quiver, and 'everyone has in the pocket of the quiver skin, awl, knife, glue and other necessary accessories'. In his list of the equipment of heavy cavalry, Leo VI mentions lime (glue?) and awls, but not knives (*Tact.* VI, 2).

Maces

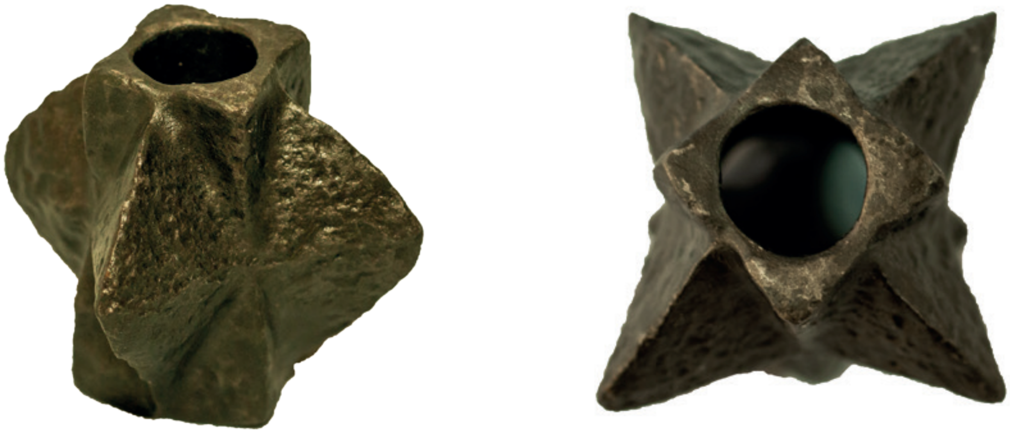
According to the *Praecepta Militaria,* each cavalryman should carry a sword – the *katáphraktoi*, as mentioned above, two of them – whether he was otherwise armed with the lance, the war-mace or the bow (PM XII, 10–12, XIII, 31s, XII,23–26). The Romans had military contact both with Iranian peoples, and from the 5th century onwards with the nomadic tribes of horsemen arriving in Europe from Inner Asia, many of which made wide use of such weapons. During the Macedonian resurgence of the late 9th–11th centuries the mace became a favourite weapon particularly of the heavy cavalryman, and was used in battle to devastating effect. It was developed in response to changing cavalry tactics, and to complex forms of armour including both ring-mail and scale.

Various terms are used in the sources for the heavy cavalry's mace: κορύνη (from the 10th to 12th centuries), but especially βαρδούκιον and σιδηροράβδιον. *Sidiroravdion* (or simply *ravdion)* is the term used by the 10th-century tacticians (e.g. PM III,7,54–57; 60, 69, 84; 61, 211) and in the epic poem *Digenis Akritas*. The sharply-angled octagonal head might be mounted on a wooden shaft, or the weapon might be made entirely of iron. Naturally, it was intended for use by the *katáphraktoi* in the close-quarter mêlée, and was conceived as a weapon able to defeat helmets, armour, and even horses (*Digenis Akritas*, 1995; VI, 260ff). In the 10th century Leo the Deacon describes an encounter between cavalrymen thus armed: 'Vardas, having seized the mace which he held suspended around [his] hand, getting around suddenly [he] hit the man upon the helmet; this one, with the helmet and the head broken, fell down without a word' (1828; 125, 12ff, VII, 8).

In the 12th century the Hungarians under Istvan III felt the full force of the Roman troopers' iron war-maces (*korrhin*ê) when they suffered a shocking defeat in 1167 at the hands of Manuel I Komnenos's cavalry general Andronikos Kontostephanos. On that occasion 'the Romans, having taken in their hands the iron maces [which] they were accustomed to carry... beside the other weapons when they went to the fight, began



Lance head of broader 'triangular' shape from Vladaya, again variously dated between the 8th and 14th centuries. Total length 33.1cm (13 ins); blade of diamond cross-section 16.5cm (6.5 ins) long, maximum width 43mm (1.7 ins); socket diameter 32mm (1.3 ins); weight 317gr (11.1 oz). (National Archaeological Institute & Museum, Sofia, inv. no. 1286; photo courtesy of Prof Valeri Yotov)



Head of a war mace in iron alloy, found in a 9th–10th century settlement near Brintsi, Bulgaria. It measures 58 x 75mm (2.26 x 2.92 ins), and the conical hole for the handle tapers from 25 to 16mm (0.97–0.6 inch). This specimen belongs to Type 2 under Yotov's classification, as used by the Eastern Roman cavalry between the second half of the 10th and the 13th centuries. The shape makes the nickname 'helmet-crusher' understandable. (Regional Historical Museum, Dobrich; photo courtesy of Prof Valeri Yotov)

to beat the Hungarians' (Choniates, VI, 203–204). The Hungarians supposedly even had a name for a mace-armed Roman cavalryman: a *korrhinêphoros* (*Eustathii Thessalonicensis*... 1892; 35, 11–36, 14). The war-mace was widely used by the Roman heavy cavalry until the end of the Empire. The 15th-century *Achilleis* (v.553) mentions the ἀπελατίκι, i.e. the mace used by cavalrymen to crush the helmets (κασσίδι) of their opponents.

The mace was sometimes carried in a leather case on the saddle from which it could easily be drawn, and sometimes from a simple hook. The latter, termed *rabdovastakin* (ραβδοβαστάκιν), is mentioned in the poem *Digenis Akritas* (Grottaferrata 119). It is illustrated in late Eastern Roman paintings representing military saints: e.g., a late 14th-century fresco from Crete, preserved in the Monastery of Diskouri at Mylopotamos, shows St Demetrios with the head of his mace attached by a hook-ring to the saddle beside his right leg. Despite this late date, there is no reason to doubt that similar hooks were used from the 9th–10th centuries. In the *Praecepta Militaria* we read of 10th-century *katáphraktoi* that 'they should have their iron maces and sabres in their hands and have other iron maces either on their belts or saddles' (PM III,7,57–60). In a parallel passage Nikêphóros Ouranós also mentions maces hanging from belts and attached to saddles (TNO, 60. 69–70).

D

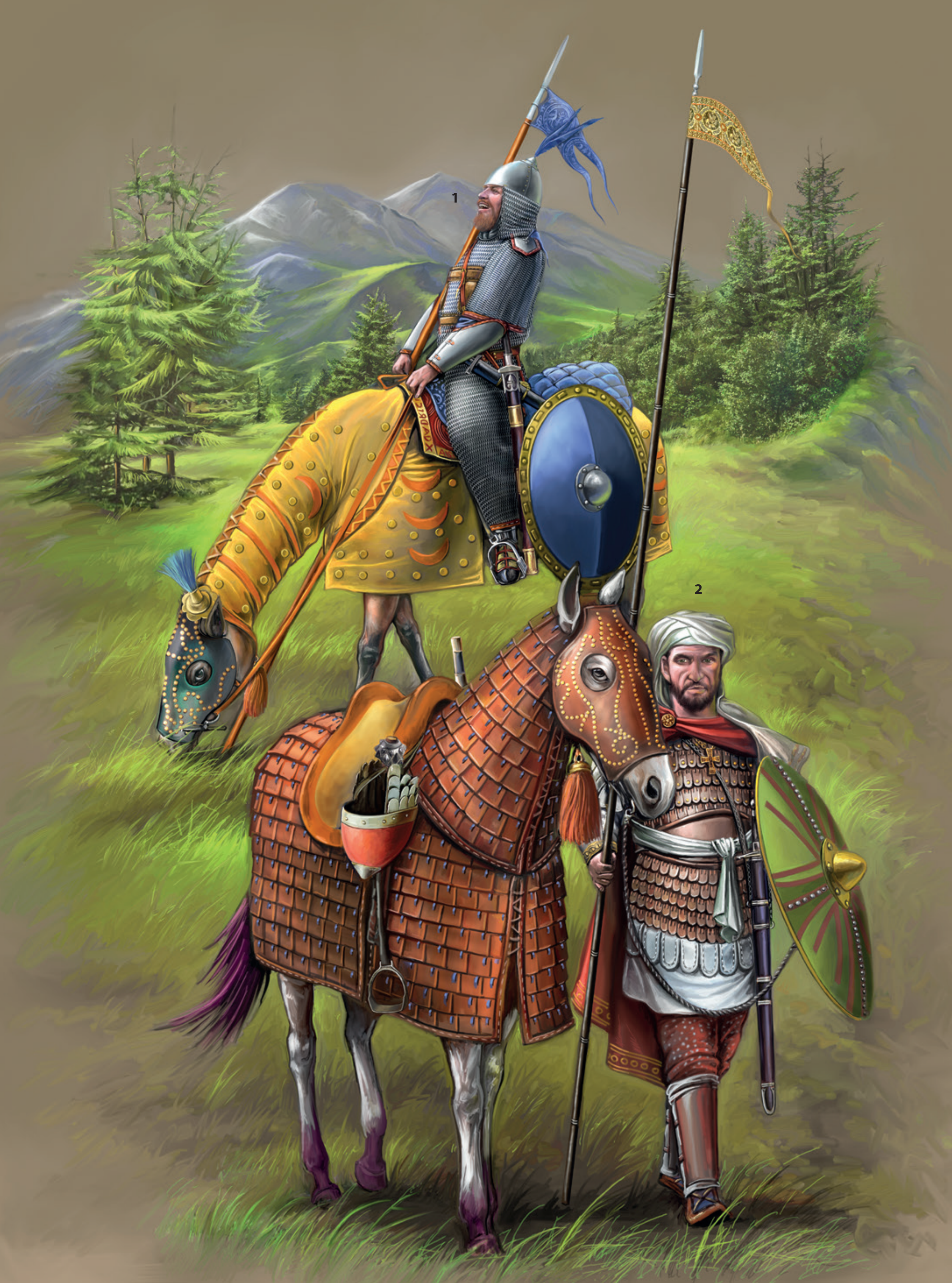
THE 9th–10th CENTURIES

(1) *Katáphraktos* of *Tàghmata*, c. AD 880–900

In his treatise *Taktikà*, the Emperor Leo VI the Wise describes the equipment that should be provided to the heavy armoured horseman. He stipulates that the chief distinction between the units of *katáfraktoi* and other types of cavalry (*mè katáfraktoi*) is the former's complete armour for both the rider and his horse. The warrior's ankle-length ring-mail *zàba* could be hitched up to a belt by means of thongs or straps and rings, which distributed some of the weight from the man's shoulders.

(2) *Katáphraktos* of *Themata*, c. AD 900–950

This provincial cavalryman is reconstructed according to the *Sylloge Tacticorum* (39, 1). but mainly from paintings in the Çavuşin Church at Göreme in Cappadocia. The *Sylloge* states that: 'The cavalry should be armed in this manner... the lances should be of eight cubits, having small pennons, and points of one span or more. The armour should be mail... or *klivánia* made of iron or horn; or even long tunics made of cotton and raw silk, having openings at the elbows [i.e. with slit, hanging sleeves].... In addition, they should also wear surcoats which have plumes or tassels at the shoulders. ' To this description the author adds *cheiropsella* on the arms and *podopsella* on the legs (of iron, wood, or processed ox-hide); a double-edged sword hung from the shoulder, a single-edged sword attached to the belt, and an iron mace on the saddle. A polished, plumed helmet 'fully covering' the head completed the equipment.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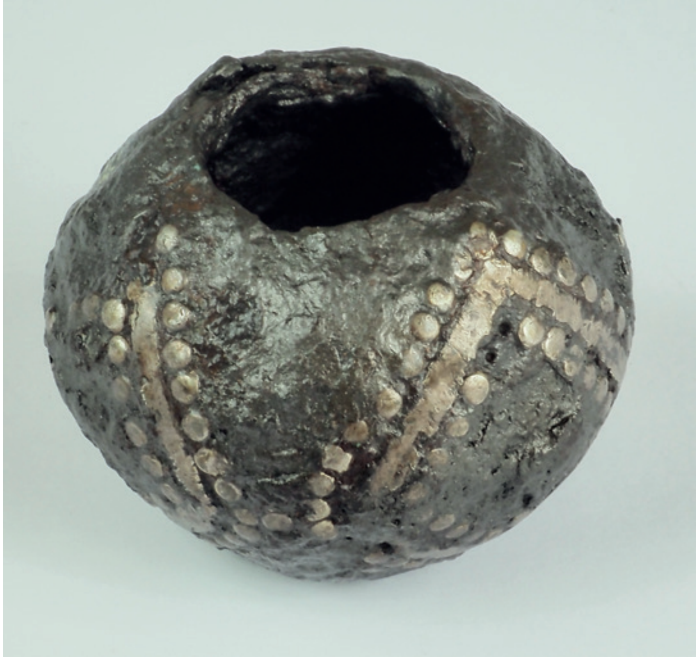


12th-century Byzantine mace head, of iron alloy inlaid with four silver diamond-shapes, from Krassen fort near Panagyurishte in Bulgaria. This decorated weapon, found with two stirrups, probably belonged to an officer of heavy cavalry. It is a hollow and slightly flattened sphere measuring 4.6cm x 6.4cm (1.8 x 2.5 ins), but still weighs 238gr (8.3 oz). (Historical Museum, Panagyurishte, inv. I–324; photo courtesy of Prof Valeri Yotov)

Bows and arrows

In the 6th–7th centuries the bow (*toxárion*) – probably the strong composite bow of Hunnic origin – was a powerful and essential weapon in the equipment of Roman heavy cavalrymen in the armies of Justinian and Heraclius. Aussaresses has calculated a range of about 133m (145 yds), judging that this bow was made largely of horn and sinew with a minority of wood. The adoption of the Hunnic bow, and of the method used to draw it, seems to have given the heavy trooper a considerable advantage over his Persian opponents, and, during Justinian's wars of reconquest, over the Goths, Franks, Alamans and Vandals.

According to the *Anonymus de Re Strategica* and to the unknown author of the small treatise *De Arte Sagittaria,* all soldiers should have been equipped with this weapon. Procopius describes the bow being raised to the level of the brow and the string being pulled to the right ear, which would give the arrow an impact sufficient to pierce armours and shields (*De Bello Persico*, I, 1, 12–17). Pseudo-Mavrikios writes that such use of the bow required great strength and long training, and so was not suited to all cavalrymen. The *Strategikon* recommends that cavalrymen should have 'bows suited to the strength of each man, and not above it, more in fact on the weaker side; cases (sing. *thekárion*) broad enough so that when necessary they can fit the strung bows into them; spare bowstrings in their saddle bags *(en tois toxogôniois,* 'at a corner of the bow-case'?)*;* quivers (sing. *koúkouron*) with covers, holding about 30 or 40 arrows; [and] in their baldrics small files and awls'.

Units of more or less heavily armoured horse-archers continued to be employed until the end of the Empire. They included mercenaries from the steppes, such as Alans, as well as indigenous Eastern Roman troops. The Eastern Roman elite cultivated the use of the bow as a sport giving the best training for war, and employed it for hunting. From the 13th century the composite bow is found in many depictions of military saints dressed as cataphracts; the colours in some detailed representations (e.g., St George of Edessa) distinguish the horn or bone parts of the bow from the nocked 'ears' and string. The quiver is usually of cylindrical shape, in different colours, with the arrows carried points-upward; this was typical of the steppe peoples, and allows comparison with actual specimens of arrowheads from the Balkans. In other examples the bow is carried around the neck without a case, and the quiver is suspended from a waist belt by two thongs (typical of the Tatar Golden Horde).

Body armour: 6th–8th centuries

Descriptions of Roman heavy cavalrymen of our period begin with the passage from Procopius describing horse-archers in the reign of Justinian (*see* above, 'History: 6th-7th centuries'). In the *Perì Strategias* we find a detailed description of the arms and armour of heavy armoured horsemen, who should be equipped with iron armour for their heads, necks and breasts.

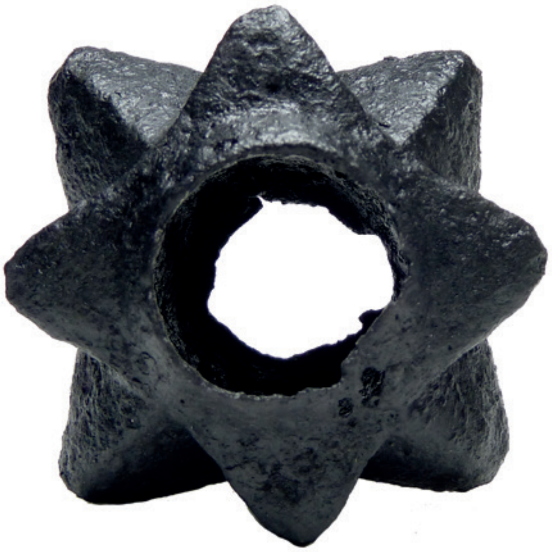
An important definition of 7th-century Roman armour is given by Isidore of Seville in his *Etymologies* (XVIII,13): 'In the matter of armours: The cuirass (*lorica*) is so called because it lacks thongs; it is made only of iron rings. The *squama* is an iron [sic] cuirass made of iron or bronze plates (*lamminis ferreis aut aureis*) linked together in the manner of fish scales and named for their glittering likeness. Cuirasses are both polished and protected by goat-hair cloth (*cilicium*)'. This passage clarifies important details of 7th-century Roman terminology.

In the 6th–7th century lamellar armours (mainly of iron), as well as helmets of lamellar construction, were fairly popular in the Roman army of the Eastern Empire. In this period lamellar armour begins to be widely used by heavy cavalrymen, as do armoured gauntlets (*cheirománika*) specifically associated with the *bucellarii*. This is confirmed by iconographic and archaeological evidence: such *doriphoroi* ('spear-bearers') are well represented on the Isola Rizza silver dish, and specimen finds come from Italy, Spain, Dalmatia and elsewhere in the Balkans, the Black Sea coast, and Africa. The most important feature of the Isola Rizza cavalryman is his lamellar corselet. This is divided into a row of *squamae* protecting the neck like an armoured collar; three rows protecting the torso; one row protecting each upper arm; and two rows protecting the groin and thighs, with a clear central division in the front to facilitate wear on horseback. This kind of armour seems identical in its construction to examples from

Clothing

The 6th-century *Strategikon* mentions loose-fitting and decorated clothing for the heavy mail-clad *zàbatoi*. The horseman was to be provided with a wide tunic (*himátion* or *zostárion*), cut 'according to the Avar fashion', made of fur, wool or linen depending upon the seasons. It should be long enough to cover the knees when he was on horseback (I, 2). Cavalrymen also wore a capacious outer coat of fur or thick felt (*gounníon* or *noberoníkion, goúnia, gounoberoníkion*) to protect them from the weather, the enemy's arrows and other weapons, and to protect mail armour from rust. Perhaps such garments, of Iranian or Slavic origin (in Slavic, *guna* meant a fur coat), may be identified with the heavy 'Persian' coats, some of them lined with fur, found in cavalrymen's graves at Antinoë, Egypt; dated to the 5th to 7th centuries, these have long, hanging sleeves.

In the Middle Period of Byzantium the clothing of the heavy armoured cavalry is not described any differently from that of other cavalrymen. Tunics called *fiboulatôria* or *fiblatôria* ('brooched garments') were in use until the 9th century. The military mantle or *chlamys* was mainly white for all the original four *Tághmata* regiments, but all the colours of the circus factions (blue, green, red and white) are mentioned in the *Liber de Ceremoniis*. A purple tunic embroidered with gold (*katakòkkinon olòchrison imàtin*) is worn under the armour by the 15th-century *archon* described in the *Achilleis*.



This mace head, with the eight points equally extended, was found in the eastern Balkans, and can be dated to the 13th century by analogy with an example from Vatra-Moldovitei. It measures 8cm (3.1 ins) in diameter by 5cm (1.9 ins) high. (Collections of former World Museum of Man, Florida; ex D'Amato, 2011)

Persia, China and the steppe peoples, with the plates overlapped sideways and linked together horizontally, before the single rows of *lamminae* (in Isidore's spelling) were assembled vertically.

Officers such as *duces* and *tribuni*, while acting as heavy cavalry, wore highly decorated armours. For instance, a passage by Corippus describes an officer in the army of Iohannes Troglita, during the reconquest of North Africa in the 530s, as 'sparkling all over his iron body', with the scales ornamented in gold, and wearing a 'blazing' helmet of mixed iron and gold embellished with a horse-hair plume. His belts have gemstone bosses, and his 'side sword' has an ivory scabbard. On his calves are boots 'of Parthian leather wrapped with much gold, and expertly covered in red-purple painting and gemstones'.

In the *Strategikon* (end of the 6th century) the writer advises (I, 2, 10ff) that each heavy cavalryman 'should have the equipment corresponding to his rank, pay and perquisites. This is especially true of the commanders of a *meros, moira,* or *tághma,* and of *hekatontarchs, dekarchs, pentarchs,* and *tetrarchs,* and of the *bucellarii* and federate troops. They should have hooded coats of mail (ζάβαι with σκαπλία) reaching to their ankles, which can be caught up by thongs and rings, along with cases (θηκάρια) [carrying-bags for mail-coats] … round neck-pieces (gorgets – περιτραχήλια στρογγύλα) of the Avar type, made with linen fringes outside and wool inside … It is not a bad idea for the *bucellarii* to make use of iron gauntlets (χειρομάνικα σιδηρά) … as well as small pennons (μικρά φλάμουλα) hanging from their shoulders over the coats of mail. For the more handsome the soldier is in his armament, the more confidence he gains in himself, and the more fear he inspires in the enemy'.

This well-known passage is sometimes misunderstood. Mavrikios is not saying that all cavalrymen should be dressed in this way, but only

E

THE 10th CENTURY

(1) *Katáphraktos klibanophoros* of the *Athanatoi* regiment

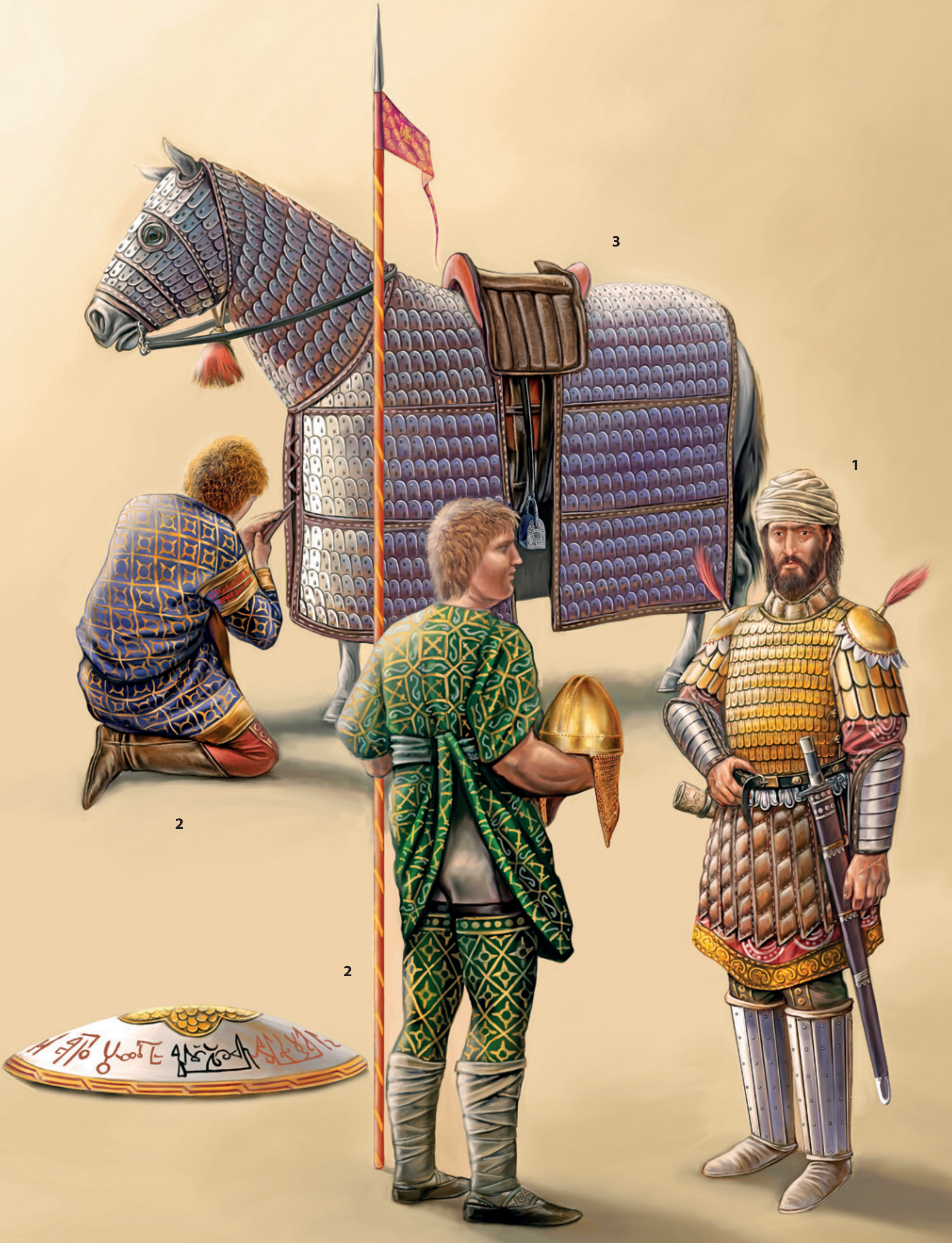
According to the treatises of Phokás and Ouranós, the *katáphraktoi* were the best-equipped soldiers in the army. Here we attempt a reconstruction of a cavalryman of the 'Immortals' regiment of the imperial *Tàghmata* putting on his equipment, according to archaeological finds in the Balkans and the description by Phokás: [1] Each warrior must have a *klivánion,* [which] should have *manikia* (armoured sleeves) down to the elbows. Below the elbows they should have *mahikélia*. Both these and the skirts hanging (κρεμάσματα) from the *klivánion* must have ζαβαι and are made of coarse silk (κουκολιον) or cotton (βαμβάκιον), as thick as can be stitched together.' Also note the padded *phakeolion* which was worn under the helmet, and the *flamouliskia* decorating the *méla* of his *klivánion*.

(2) *Douloi* servants

Each elite cavalryman would normally have to provide at least two squires (also variously known as *paides, pallikes,* or *hypourgoi*) accompanying him on campaign to act as field servants and 'armour-bearers', and the number increased during the Macedonian dynasty. We copy the squires' dress from the *Menologion* of Basil II; it comprises a tunic (*kamision*), tight trousers (*anaxyrida*) and boots (*kampotouvia*)).

(3) Armoured horse

The lamellar armour from Strugosjata in present-day Macedonia shows scales about 9.5cm (3.7 ins) long, which suggests the possibility that it comes from a horse-armour. Note the usual protections of head, neck, breast and sides, and the decorative hanging *touphai* (tufts).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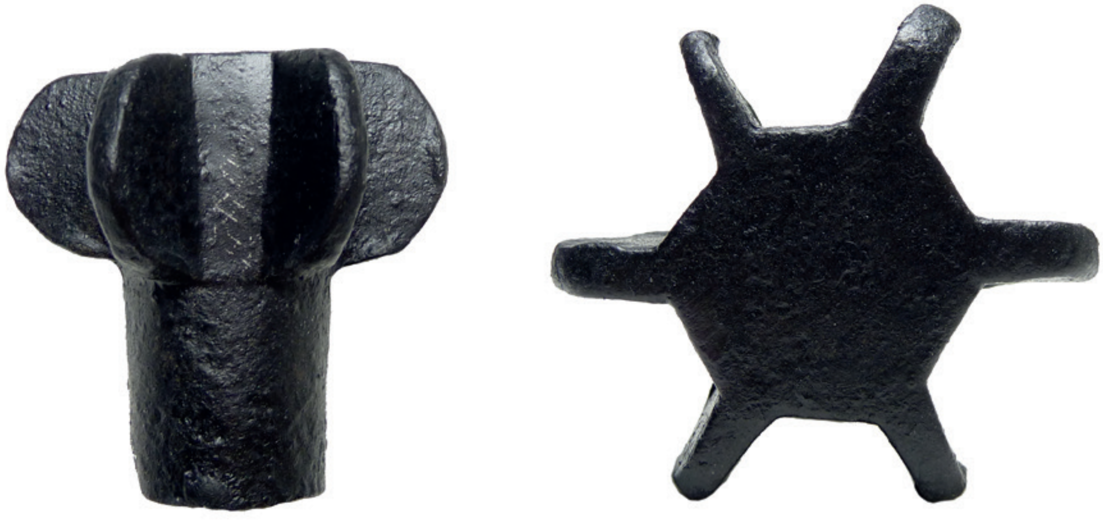


A mace head found in the Balkans, and dated to the 14th–15th centuries by comparison with a specimen preserved in the War Museum, Belgrade. Measuring 6.3cm (2.5 ins) high by 6.5cm (2.6 ins) across, it might have been used as a command staff. (Collections oftformer Museum of Man, Florida; ex D'Amato, 2011)

some categories of heavy cavalry, especially men of senior ranks. It also explicitly suggests a strong Avar influence at this time (see also *Strategikon* I, 35–39), particularly the gorget (*peritrachélion stroggylion*), which is worn in combination with the long coat of mail (ζάβα or *loríkion*), which could be caught up to the waist with thongs. Pertusi suggests that such armour, kept in a case (cloth bag?) until just before battle, was of Avar or Persian style (*Strategikon* XI, 2). By the time of Heraclius it could form three layers of mail in some places, and was called a ζάβα τρίμιτρον (Theodore of Sikeon, p. 107 – XXVIII). The origin of the word *zába* for a mail-coat was probably Sassanian, linked with Turkish or Arabic words. Finally, the passage is interesting in mentioning the *skaplíon* or mail hood, already visible in Roman iconography in the 3rd century but now officially prescribed. Attached to the *zabe*, it might sometimes be folded down on the shoulders (*Strategikon*, VIIbis,15), or alternatively be used alone as head protection (X, 1).

The gorget of Avar origin is visible in the iconography from the 7th century. Iron gauntlets are well attested by archaeology of the 6th–8th centuries. Grave 90 at Castel Trosino, of a late 6th–early 7th century Lombard warrior with mainly Roman equipment, yielded a fragment of a ring-mail gauntlet sewn onto leather. However, contemporaneous plate gauntlets made of *lamminae* are confirmed by finds as widely dispersed as Rome and Sochi.

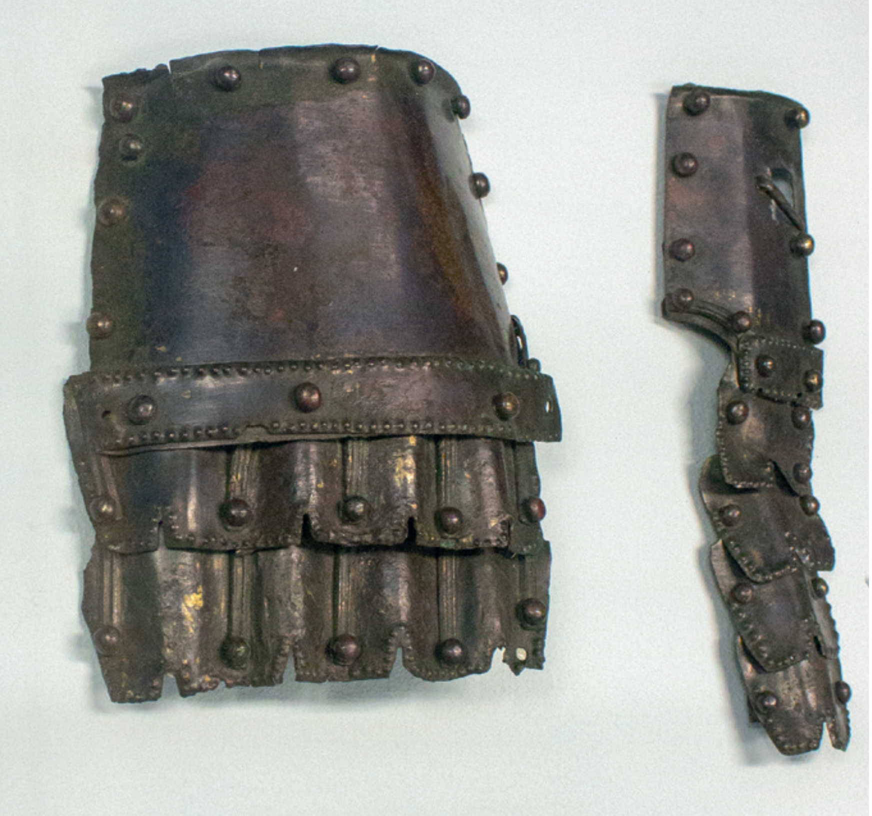
10th–12th centuries

The above description of heavy cavalry armour from the late 6th-century *Strategikon* is closely repeated in the *Taktikà* (VI, 2) of the Emperor Leo the Wise, written at the end of the 9th century, which actually recommends it for both cavalry and infantry. The long mail-coat seems to have been used throughout the 10th century, and is recorded in Arab sources. Al-Mutanabbī (p.347) describes John Tzimiskès, surrounded by the Arab warriors of Saif al-Dawla at the battle near Hadath in 957: 'his long coat of mail, on whose folds a constant shower of javelins fell, protected him against our horsemen. The javelins marked it without piercing it, as if each point [had been only] a feather'. In the 10th century the term *zába* for a ring-mail armour is often used interchangeably with *lorikion,* from the Roman *lorica*. That the *lorikion* mentioned in Leo's *Taktikà* was ankle-length is suggested by the adjective *teleios* ('complete').

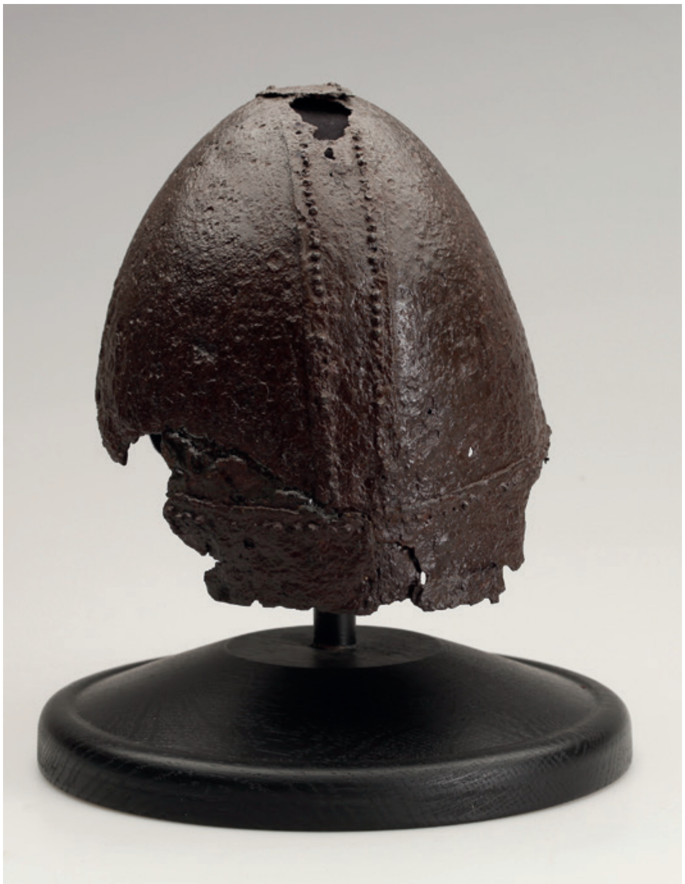
Cavalrymen needed long armour to protect their legs from the weapons of enemy infantry. Extending to ankle length, it was divided deeply at front and back so that it hung down over the legs when the wearer was on horseback. Although they did not have to be as agile as infantrymen when dismounted, it was naturally practical for them to hitch the skirts up to the waist by the above-mentioned thongs and rings, and attaching these to a waist belt would then redistribute some of the armour's heavy weight off the shoulders. The *Taktikà* (V, 3) again refers to the neck protections called περιτραχήλια, made of ring-mail (άλυσίδωτα) in iron (σιδηρά), with linen outer and wool inner linings (ενδεδυμενα).

Referring to heavy cavalry armour, the *Lexicon* of Suidas uses the generic term *thorax* (θώραξ) for both ring-mail armour and the second most common type, the scale or lamellar *klivánion* (alternative spelling *klibánion*.) The etymology of this word is debatable, but it came to be used in Latin and Greek to convey the sense of 'a fuller suit of armour'. From this derived such terms as *clibanarii*/ *klibanárioi*, *klibanátos* ('covered in armour'), and *klibánophoros* ('wearer of the *klibánion*').

The essential difference from the *lorikion* was that the *klibánion* was not composed of ring-mail but of small plates or scales. At the end of the 9th century Leo the Wise (*Taktikà* ,VI, 31) already mentions such armour for the *katáphraktoi*, worn in combination with ring-mail or alone, made if possible of iron, or of horn scales: 'they armed the *katáphraktos kavallarios*



Sassanian gauntlet for heavy cavalryman, 6th–7th century. Though its Sassanian origin is indisputable, Roman cavalrymen of the reigns of Maurice, Phokás and Heraclius are described as having the same kind of hand protection (*cheiromanikon).* During the period of the Romano–Sassanian alliance to restore Shah Khusraw II to the throne, it is reasonable to assume that mutually influential contacts led to interchanges of equipment in both directions. (Römische Germanische Museum, Mainz; author's photo, courtesy of the Museum) from head to toe, as well his horse, the man with armour of ring-mail, or iron or linked horn *klivánia*'. In another passage he writes: 'If possible, they should wear breastplates, polished and shiny, that are now called *klivánia*'. *Klivánion/klibánion* referred basically to any protection of lamellar or scale construction, including horse armour. *Squamae* and *lamminae* were in continuous use by heavy cavalry from Late Antiquity onwards, but only in the 9th and 10th centuries do we find such words widely diffused to designate this kind of body protection. In the military manuals of the 10th century the *klibánion* might refer to limited armour for the breast and back only, but might also mean a full armour consisting, for the cavalry, of breast- and back-plates, shoulder guards, sleeves and skirt, or even a horse armour. Leo's *Taktikà* (VI, 3–4) states that the heavy cavalryman should be supplied with iron gauntlets (*cheiropsella)*, greaves (*podopsella),* sometimes spurs, and surcoats *(epilorika)* when necessary.



Three-quarter rear view of a helmet from Praha-Stromovka, variously dated between the 8th and 9th centuries. (Praha National Historical Museum, inv. H2-60751-54 series; public domain)

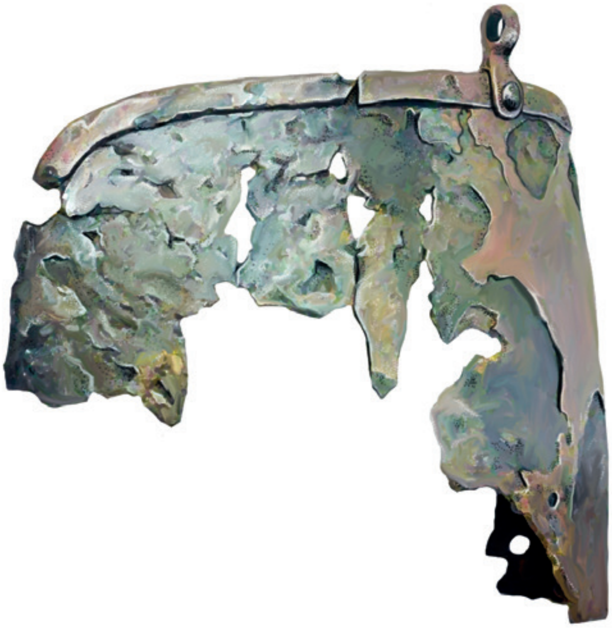
A detailed description of the equipment of *katáphraktoi* is also given in the anonymous manual known as the *Sylloge Tacticorum*, probably dating from the mid-10th century. There is no substantial difference from Leo's description, but instead of ζάβα we find *lorikion* or other words to indicate the mail-coat (e.g. *thorax alusidotos*), which is distinguished from the lamellar *klibánion*: 'Among the cavalrymen the *katáphraktoi* were fitted with ring-mail armour (θώρακές ἀλυσιδωταί), or scale armours in iron or horn (κλιβάνα σιδηρά ἤ κεράτινα).'

Cavalry armour underwent changes during the wars of conquest of the Macedonian dynasty, between the reigns of Basil I (867–886) and Michael VI (1056–1057). The *pansideroi ippotatoi* to which the Emperor Nikêphóros Phokás attributed a special function were conceived, according to Liutprand of Cremona, as more nimble and less heavy than their Western counterparts (as were such horsemen in the reign of Basil II, described by Nikêphóros Ouranós).

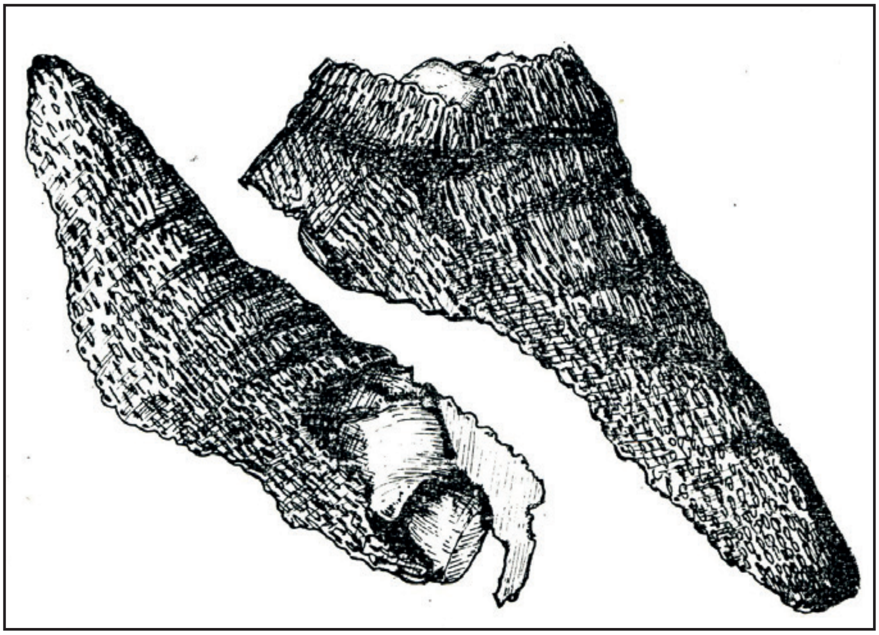
In practice, according to both Phokás and Ouranós, the protection of the Eastern Roman *katáphraktos* was composed of lamellar or scale body armour (κλιβάνιον), to which was added primary protection for the arms from shoulder to elbow (μανίκια), and *mahikélia* for the forearms (μανικέλια, χειρόψελλα), again in combination with greaves. Such armour allowed them to 'come through the volleys of arrows untouched and smash through the enemy, and with the help of God the enemy will give way'. From the *Praecepta Militaria* (III, 4) we learn that the shorter κλιβάνια should have sleeves (μανίκια) that reached the elbows; and that the *manikélia* from elbows to wrists, as well as the skirts of the *klivánion*, should have protective elements of either mail or scale attached to thick coarse silk and cotton glued or stitched together.

The term *kremásmata* (lit. 'hanging pieces') is not easy to interpret in the relevant passages, but on balance it probably means 'skirts made of hanging pieces', corresponding with the *kevadia* (meaning the felt of which they were composed) which are mentioned by Nikêphóros Phokás as hanging from the belts of horse-archers. However, it may also be employed to mean arm protection of mail or scales on fabric or leather backing, as visible on St George or St Prokopios in the Snake Church in Cappadocia, or hanging from the left shoulder of the warrior represented in a steatite icon preserved in the Louvre, both dated to the 11th century.

The iconography of cavalrymen wearing *klivania* does not always show protection below the waist. When this is present it mostly appears as strips (sometimes metallic) which hang from the upper-body armour in a way reminiscent of ancient *pteryges*. In such cases the larger or smaller scale corselet shows one or two layers of strips protecting the upper arm, and on the abdomen a Hellenistic *cymation*-like row of lappets above one or two layers of leather strips, sometimes with metal reinforcements, reaching to the knee.

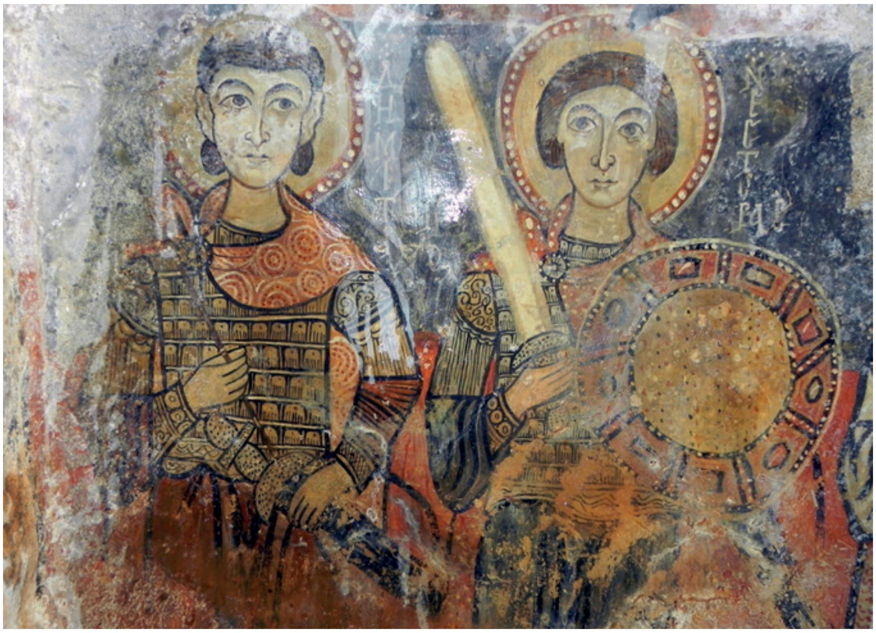


Fragment of shoulder guard from a find of 9th-century Khazaro-Byzantine armour from Gelendjik. (State Historical Museum, Moscow; drawing by Andrey Negin)



Fragments of ring-mail foot armour as worn by heavy cavalrymen, from the 9th-century necropolis at Kyulevcha. Some warrior remains in this mass grave still wore such shoes or short boots, corresponding to the Emperor Leo VI's mention of 'shoes of iron'. However, it is unclear whether these dead warriors are Roman troopers killed by the Bulgarians of Krum, or Bulgarian warriors killed by the Romans of Nikêphóros I during his campaign of 811. (Drawing by Andrea Salimbeti; ex Vazarova, 1976)

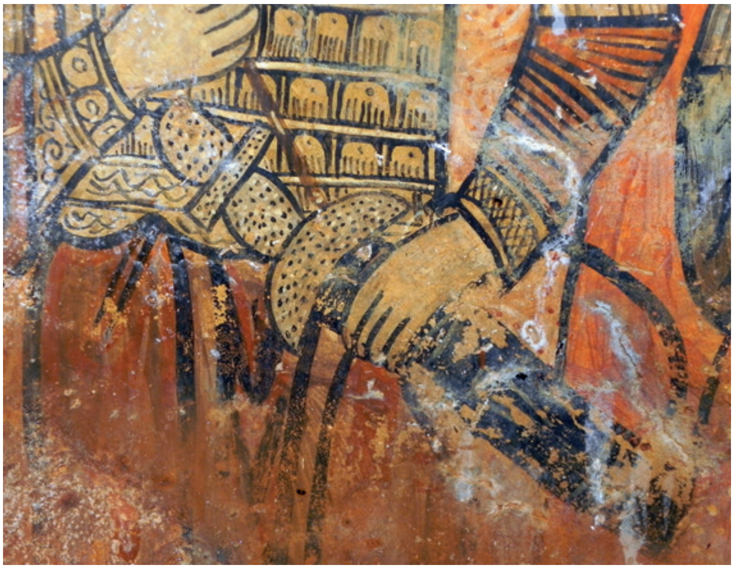
Sts Nestor and Demetrios depicted as Roman *katáphraktoi;* this fresco, dating from the 10th or 11th century and previously unpublished, survives in the Church of St George at Pentakia in the Mani Peninsula, Greece. (*in situ;* author's photo)

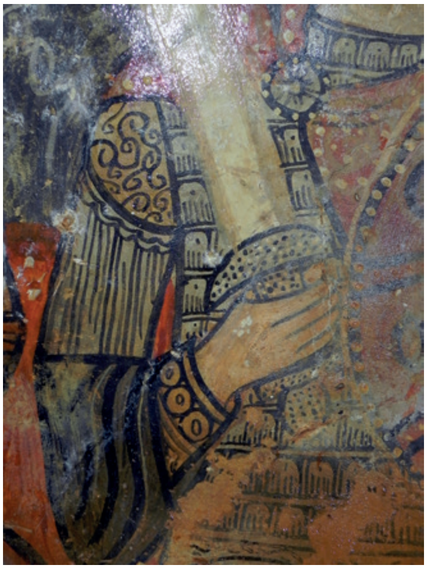


The Pentakia images are rare representations of Roman heavy cavalrymen of the age of Basil II 'the Bulgar-Slayer'. Note (left) the details of the lamellar *klivanion*, apparently with a wrist-length right sleeve and an elbow-length left sleeve, and hanging fabric 'skirts' (*Kremàsmata*). Note (right) a rounded and decorated shoulder-guard, with strips hanging below, and the sword perhaps with an extension of the guard down over the top of the scabbard. (in situ, Church of St George, Pentakia; author's photos)

Over the *klivánion* or other armour the *katáphraktos* could wear a thickly padded surcoat (*epilórikion*). Nikêphóros Phokás states that 'they should wear *epilórika* of coarse silk or cotton. Their hands should be able to go out through the shoulder slits. Their sleeves should hang behind their shoulders'. According to military manuals, these surcoats gave good protection against both penetrations and impacts.

There is an interesting, if indirect mention of the heavy equipment of the Roman *katáphraktoi* in the mid-11th century in William of Apulia's 'Deeds of Robert Guiscard' (*Gesta Roberti Wiscardi* , I.222–31,110, ll. 222–31), when the Lombard Arduin of Aversa, a Norman commander, says of the Eastern Romans that 'they are a cowardly people, dissolved by drunkenness and hangovers, who are frequently put to flight by small numbers of the enemy,

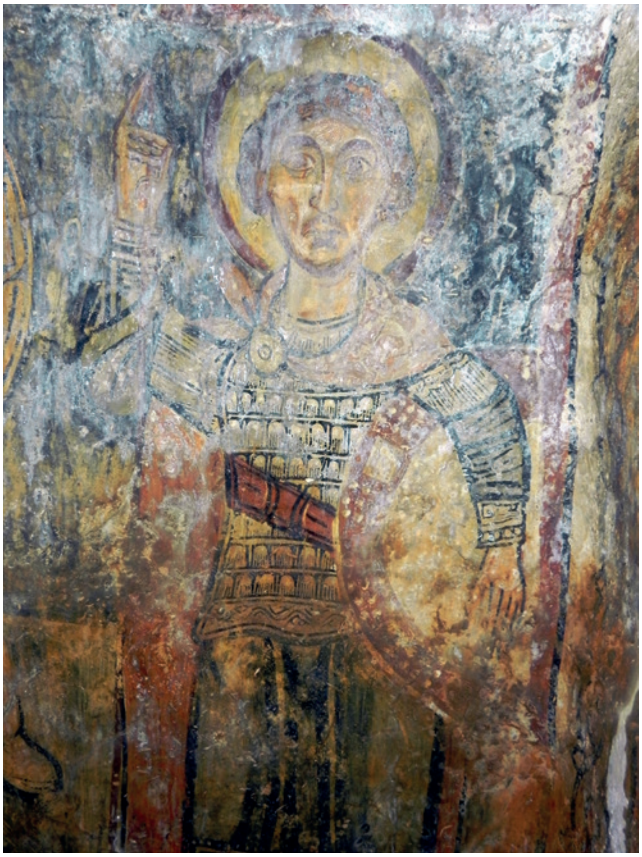




and whose cumbersome clothing and armour he alleges are unsuitable *(vestituque graves, non armis asserit aptos)*'.

Some modern authors have missed the significance of this sentence, which unarguably refers to heavy and burdensome armour. Given William of Apulia's detailed knowledge of the Eastern Roman military of his period, it is evident that Arduin is referring to the most heavily equipped of the *katáphraktoi*, the unit sometimes referred to by historians and in military treatises as the *klibanophoroi;* Arduin is contrasting these 'oven-wearers' with their much less encumbered Norman counterparts.

In reference to the description of armour in the treatise of Nikêphóros Phokás from c.960 (III, 26-31) that we quote in the commentary to Plate E1, T. Kolias draws attention to the term *zabai*. In this period, the word *zaba* no longer applied specifically to ring-mail, but might be used for any protection, of mail, scales, or even padded material. Phokás recommended that leg guards (χαλκότουβα) should also be provided; and the iron helmet should be furnished with double or triple protection for the face. Even their horses must be 'all-covered' (ἵπποι κατάφρακτοι).



St Prokopios as a Roman *katáphraktos*, 10th or early 11th century; Church of St George, Pentakia, Greece. The length of the *klivánion* could vary considerably – usually waist-length, as here, but sometimes still extending to cover the lower body, as in the 7th century. In the later 10th century Byzantine craftsmen introduced an innovation in lamellar construction: individual plates were not linked together, but attached side by side to leather backing, sometimes by means of one or two central rivets. (*in situ*; author's photo)

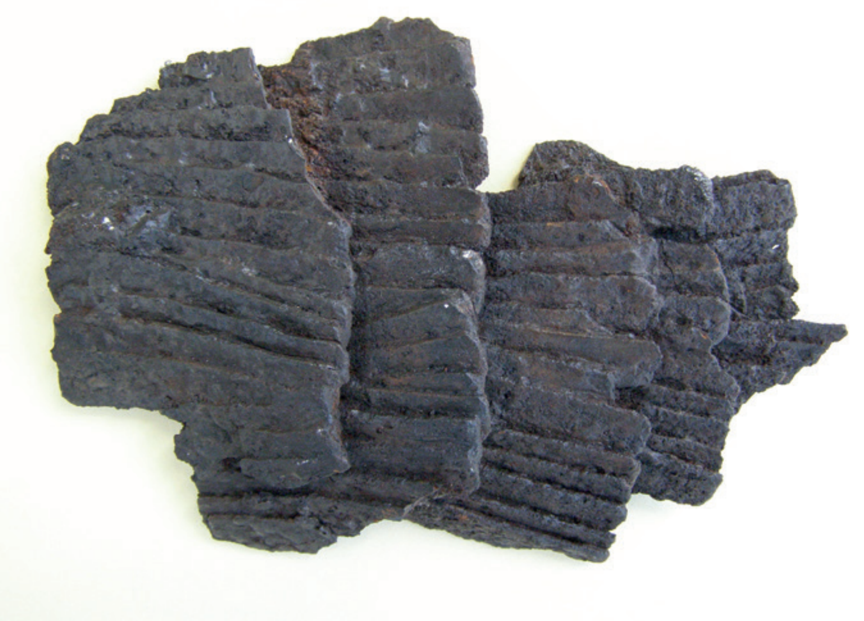
Arduin is arguing that his Normans, carrying less weight and enjoying greater mobility, should not fear the imperial cavalry, whose cumbersome gear made them the more vulnerable when unhorsed. He is also telling us that, a hundred years later, some Eastern Roman cavalrymen were still equipped as described by Phokás and Ouranós.

13th–15th centuries

The miniatures in the 12th-century Skilitzès Manuscript and iconography of the 12th–14th centuries show the persistence of these armours among Roman heavy cavalry of that period. The former source gives us (folio 195v) an excellent representation of *klibanophoroi* in Basil II's victory over the Abasgians led by Georgios. They are encased in long armours of scales or *lamellae* which seem to be made of leather (*klibánia* made of buffalo-hide are mentioned by Leo the Wise), and have splint greaves.

The use of a gorget for neck and throat protection persists, and it is widely visible in paintings. This protection is also mentioned in the *Achilleis*, probably written in the early 15th century, where it is called τραχηλέα, and in some situations it might be worn independently of armour. It sometimes seems to extend down over the lamellar chest armour to terminate in a fringed edge. Such gorgets were attested in Byzantium from the 12th century, but were especially diffuse in the 13th, and by the 14th century seem to abound throughout the Christian Greek and Balkan world, from which they evidently spread westwards.

Fragments of a lamellar *klivánion* from Pernik fortress in Bulgaria, 10th–11th century; they were found in the debris of Tower IV, burnt down during an 11th-century war. The small iron strips are identical in size, flat, with an elongated rectangular shape cut straight at one end and curved at the other. The plates partly overlap sideways, and were probably joined together on straps; there are five holes in each, four in the middle and one at the end. Bulgarian archaeologists judge that they were probably part of a sleeve. (Regional Historical Museum, Pernik; inv. no. П 2422; photo courtesy of Prof Valeri Yotov)



The *klibánion* is still mentioned in the sources (e.g. *Achilleis*, v.126) and visible in miniatures and paintings; but a Russian prelate, Ignatius of Smolensk, observed that at the coronation of the Emperor Manuel II Palaeologos in 1392, 'twelve armoured men *(oruznik)* walked on either side of the Emperor, from their legs to the head all in iron'. This seems to imply that these men-at-arms wore plate armours in Western style, an interpretation supported by Turkish sources which mention the employment by the last Roman elite warriors of 'blue' or 'steel armour' which grated against itself – i.e. plate armour, probably of Italian or Catalan style.

In 15th-century Byzantium it is clear that the best-equipped *stradiotai* wore full armour. Turkish observers speak of 'amazing gauntlets, arm defences, leg defences, helmets, [which] all shone and twinkled in the light'. In the Greek version of the Western romance of Florio and Platzia Phloria

F

THE 11th–12th CENTURIES

(1) *Katáphraktos*, c.1000–1025

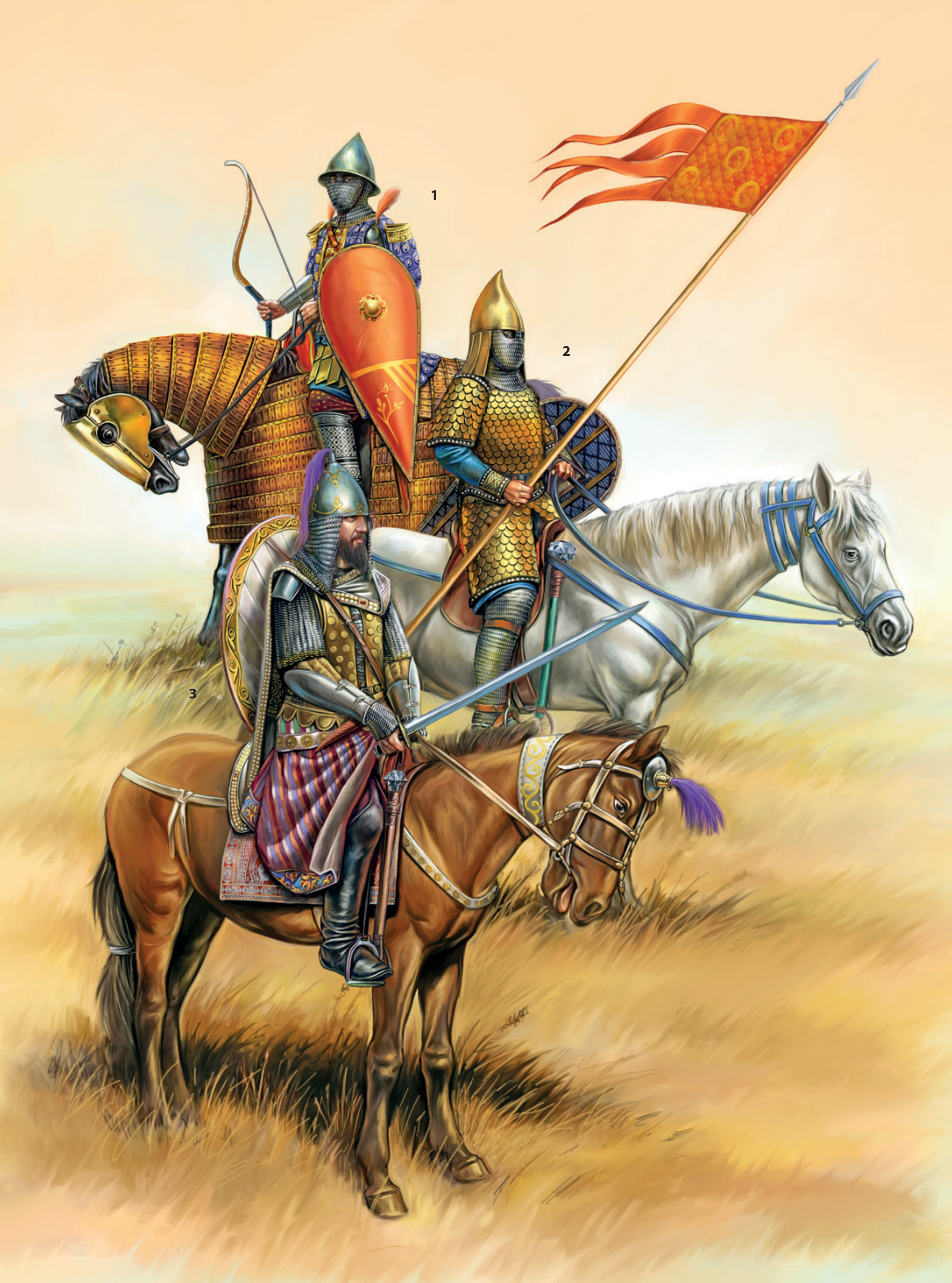
This reconstruction follows the *Taktikà* of Nikêphóros Ouranós, a general who served Basil II 'the Bulgar-Slayer' (976–1025). Note the splendid *epilorikion*, copied from paintings at Karanlik Kilise, Cappadocia (St Evstratios) and the *chapel de fer* helmet from 12th-century miniatures. The primary weapon might still be either a lance or a composite bow. The sources characterize their horses as powerful and bold. Two types of horse-armour are mentioned, both being fastened together to cover the head, neck, and body down to the knees; one type was made from quilted felt or pieces of hardened leather, the other from buffalo-hide.

(2) Macedonian *Pronoiarios Katáphraktos*, mid-12th century

The reforms of John (Iohannes) II Komnenos (1087–1143) following the disaster of Manzikert, and of his son Manuel I (1143–80), are evident in the equipment of this warrior serving in return for a land-grant. Note again the long, convex, almond-shaped shield, and the ring-mail *chausses,* based on a find from the Bracigovo area. His head protection, from the specimen from Branicevo, is typically Eastern Roman, and Emperor Manuel is recorded as wearing this when he fought in single combat against the Zupan of Serbia. Kinnamos (III, 9) and Choniates (92. 39) both mention full mail aventails on cavalry helmets, and, specifically, that when the emperor received a sword-blow to the face, he suffered no serious injury even though the rings (κρίκοι) of his mail were driven into his flesh by the impact.

(3) Heavy cavalryman of the Cherson *Thema*, 1180

This provincial Thematic cavalryman is taken from one of the specimens of decorated *sgraffito* pottery found in the city of Cherson, with a combination of *lorikion* and *klivánion* as his main body-armour. The archaeology on which we draw for this reconstruction is mainly from local finds in Cherson and in nomad graves. The equipment – such as the helmet and horse-harness from Anapa – was probably loaned or gifted by Byzantium to warriors serving as mercenaries in the imperial army.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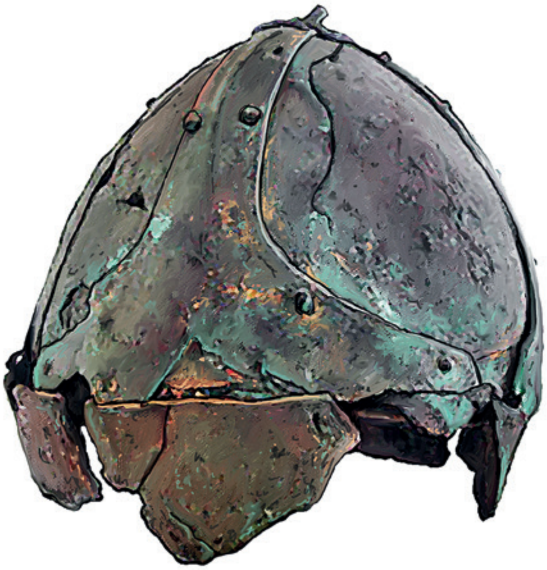
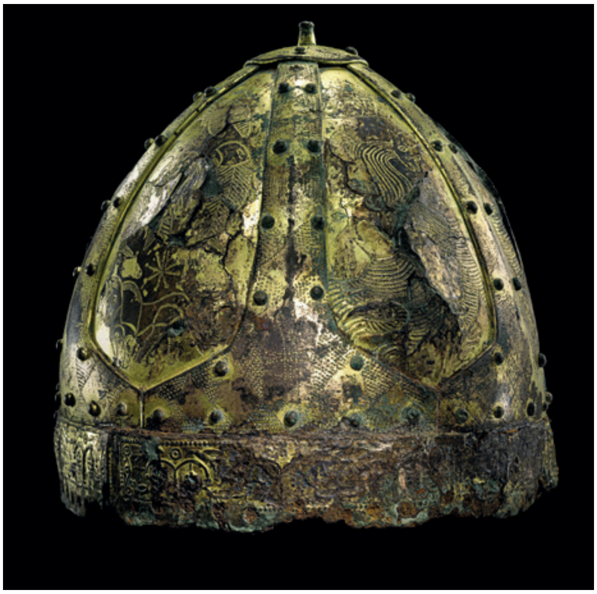




ABOVE LEFT
Gilded iron *Spangenhelm* of Baldenheim typology, mid-6th century, from Leptis Magna (modern Khoms, Libya); present location unknown. (Drawing by Andrey Negin)

ABOVE RIGHT
7th-century Roman gilded and decorated *Spangenhelm;* again of the Baldenheim type, this specimen was reportedly found in the Caucasus region, together with a Sassanian silver jar. The location remains to be confirmed, but if it does prove to be from the Caucasus or an immediately neighbouring region then the find could be of considerable historical importance, and associated with the campaigns of Heraclius against the Persians. This beautiful and remarkably preserved helmet is constructed of iron internally and gilded copper externally, and has a typical domed, slightly oval form. A disc-shaped finial or plume-holder at the apex is fastened with six small domed copper rivets; it overlays six inverted T-shaped pieces of gilded copper sheet, each attached to the bowl with 15 domed rivets. (Private collection; ex D'Amato-Negin, 2017; photo taken by courtesy of Sothebys)

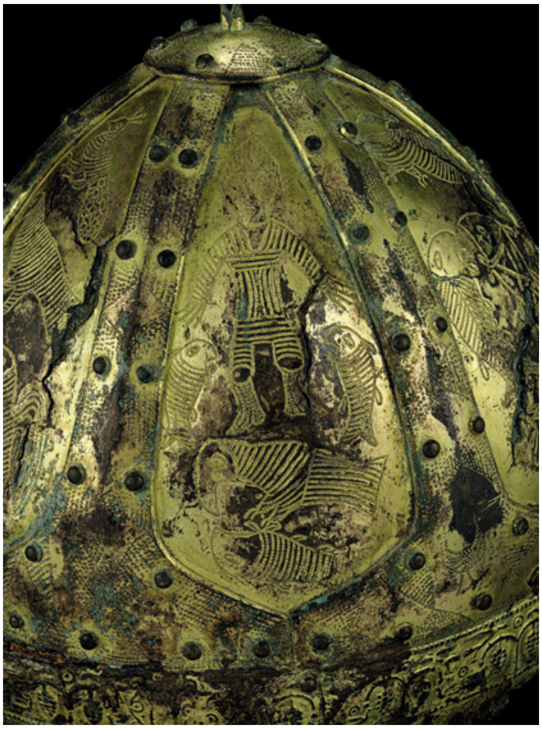
(v.531–532) we find 'silver cover-arms, iron knee-guards, and gauntlets of iron inside and gold outside'. Knee-guards, sometimes highly decorated and closed at the back by means of small buckles, followed a Balkan fashion for hanging ring-mail protection.

Many officers wore mixed equipment combining elements of the late Roman tradition with the Western style. This is clearly visible in paintings, such as those of the Aghia Triada Spilia in Crete, where Western arm armour is worn together with a Balkan-style *klibánion* of scales, probably in brass or gilded iron. Conversely, a 'Centurion of the Crucifixion', although wearing Western plate body and arm armour, is depicted with lower body protection of squared plates disposed like old-fashioned *pteryges*. Finds in Greece and the Balkans confirm that wealthy commanders sometimes wore scale armours (*thorakion, klibánion*) of gilded bronze and of various lengths, with the scales sewn to a backing of doubled cloth, perhaps felt. Such armours were fastened at the sides by means of small buckles; some also had a belted reinforcement structure, in iron or leather (often dyed), which closed at the back with a bronze buckle.

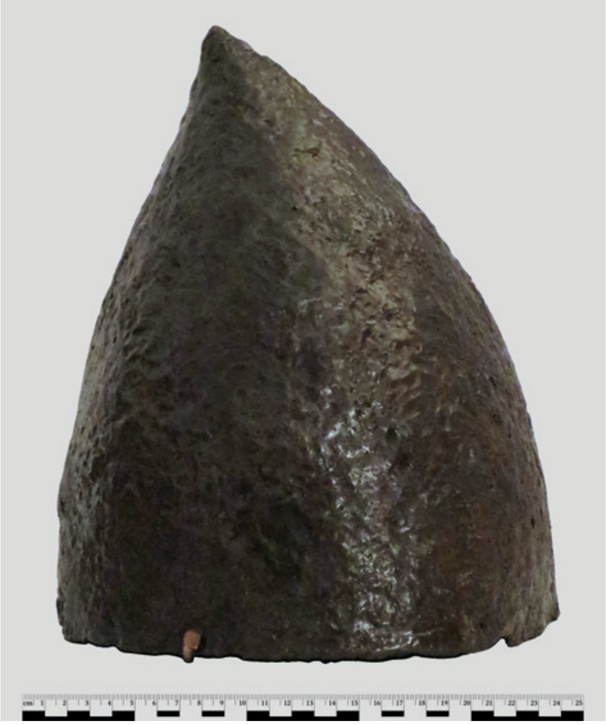
In addition, tall rigid or semi-rigid neck and shoulder protections (gorgets, *gorgeria*), sometimes made of splint armour lined with felt, may have been a feature of heavy cavalry armour in the late 14th and 15th centuries. The greaves may have been of similar construction, but complete Western-style shin-guards, laced at the back, were common. Iron reinforcements worn under the soles of shoes have been found in the archaeological context of 15th-century Mistras. The *Achilleis* (v. 206ff) mentions 'shining' armours (*lourikía*), together with shields (*skoutaría*). Over their armour, elite cavalry still wore garments called *apanoklivanon*, sometimes splendidly ornamented, like the one described in the *Achilleis* (127ff) as being encrusted with pearls and precious stones.

Helmets and head protection

According to the *Strategikon*, the heavy cavalry should wear mail hoods and neck-guards, together with helmets which the iconography suggests were probably segmented *Spangenhelme*. The helmet (*kassís*) of the *Strategikon* is described as shining, heavy, made of iron, and fitted with a small tip for



ABOVE LEFT
Detail of the bowl of the Caucasus helmet, showing an image representing an armoured cavalryman. While the lower band is embossed with vines, grapes and birds, the rest of the helmet bears punched decoration of birds, animals, a tree and cross motif, and armoured men. The latter probably represent the heavy cavalry of the Emperor Heraclius described by Georgios of Pisidia; for reconstruction, see Plate B2. (Private collection; ex D'Amato-Negin, 2017)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ABOVE RIGHT
Iron helmet of 'Phrygian' shape from Branicevo, dating from the middle or second half of the 12th century. (Archaeological Museum of Pozarevac, Serbia; ex D'Amato-Spasić-Đurić, 2019)

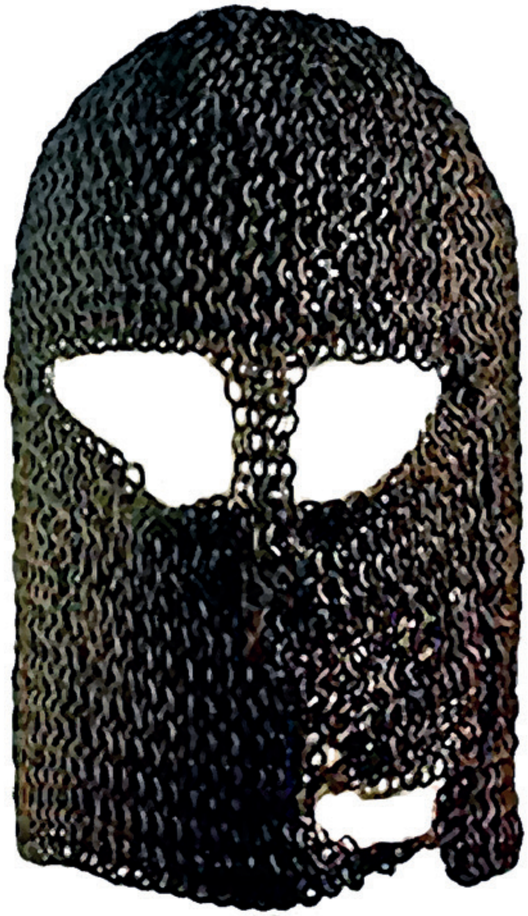
the attachment of a plume, a chin strap, and small decorative tufts hanging from cheek-pieces.

The sources suggest that in the 9th–10th centuries the helmets of the iron-clad *pansideroi ippotatoi* were more compact, and fitted with protection for the face. The *Sylloge Tacticorum* (ST XXXI, 1) speaks of 'complete' helmets (*korytes teleiai*) worn by the *katáphraktoi*. In the iconography these are usually represented as spherico–conical and fitted with aventails of scales, felt or leather. According to the *Praecepta Militaria* of Nikêphóros Phokás, which uses medieval Greek technical military terms of the 10th century, the *kassídion* is the generic cavalry helmet, but in one instance (PM III, 34) the term *kasída* is reserved to the helmets of the heavy cataphracts – meaning a helmet with a bare, polished surface.

According to Phokás and Ouranós, the *katáphraktoi* had compact helmets fitted with complete mail or textile face-guards two or three layers thick, pierced only with eye-holes – a style long known in the East. The term *zaba* is used of the face-guard, but (again) note that in the second half of the 10th century this word was applied not only to ring-mail but generically to individual protective items of various materials. In fact, one of few images that we have of a heavy cavalryman wearing face protection, in the 14th-century *Codex of Alexander* from Trebisond, shows not ring-mail, but scale (see page 23).

An important literary reference can be found in Anna Komnene (1945–1967; I, 23 [I, 5, 7]); there, ἀσκεπεῖς τῷ κὐκλῷ is interpreted as a visor or mail curtain covering the face. Anna uses the word κὐκλῷ when writing that her father, the future Emperor Alexius I Komnenos, covered his face in battle by lowering the protection 'which was hanging all round the helmet'. A mail curtain hanging from the helmet bowl is also mentioned for cataphracts in treatises of the Macedonian dynasty.

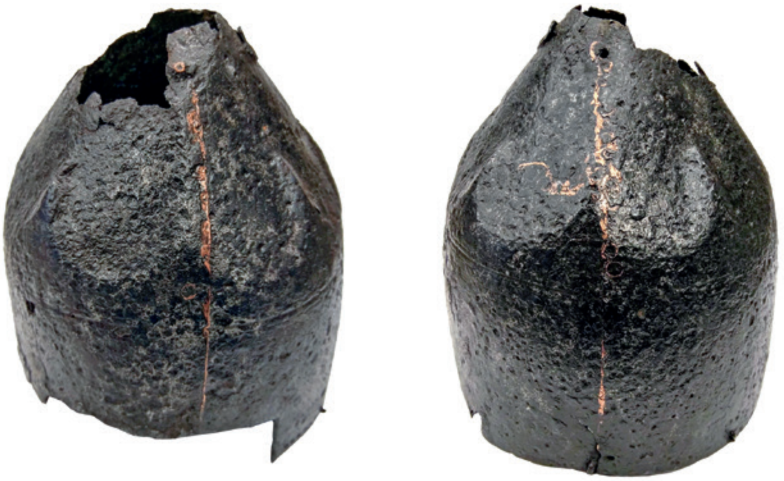
Both the *Taktikà* of Leo VI and the *Sylloge Tacticorum* mention small plumes (*touphia mikra*) at the top of the helmet. This kind of tuft or plume was inserted in a plume holder, and in fact most of the cataphract helmets visible in 9th- and 10th-century miniatures (e.g. Cod. Gr. 510, in Paris) show a plume at the apex, not dissimilar to that in the famous 2nd/3rd-century graffito of a *clibanarius* at Dura Europos. Many of the heavy cavalry in the 12th-century Skilitzès MS (folios 54v & 73v) also seem to correspond in having mail or lamellar curtains of various sizes hanging down to cover the shoulders. A similar helmet is also worn by the heavy cavalry officer of the 9th century represented in the Chludov Psalter (folio 58r). Such helmets are known from Russian archaeological excavations at Gelendijk, where mixed 8th-century Khazar-Roman equipment has been found which corresponds with images in the Chludov Psalter and *Codex Pantocrator* 61 from Mt Athos.



Ring-mail hood in oriental style, from the area of Sofia, Bulgaria. Tentatively dated to the second half of the 12th century, this complete coif, measuring 34 x 26cm (13.4 x 10.2 ins), is made of iron rings with a diameter of about 1cm (0.39 in). The form is slightly egg-shaped; today the strip of mail between the eyeholes is narrow, but originally the structure would have been more compact and 'closed-up'. As a casual find made during work on the land, this very rare specimen was originally preserved at the Faculty of Agronomy in Sofia. (Drawing by Andrey Negin)

The cataphracts' helmets represented in the 12th-century Skilitzès MS miniatures (e.g. that of the hero Anemas, folios 162r & 169v), are often of the compact conical shape found in many artistic works of the previous two centuries, and correspond with the descriptions by Phokás and Ouranós. However, as is common in ancient and medieval sources, groups of warriors often wear differing types. While they are usually conical and fitted with aventails, round-topped examples, sometimes embossed with rich decoration, are also visible (Skilitzès MS, folio 202v), as are 'Phrygian' types with the apex drawn forwards, segmented *Spangenhelme,* and brimmed *chapels de fer* 'war-hats'. The Eastern Roman Empire was a crossroads of many cultural and material traditions, which are faithfully reflected in the detailed work of the miniaturists.

One-piece and segmented conical helmets are visible in most representations of 13th- and 14th-century cataphracts. In the later period, Roman armoured cavalry preferred open-face *sallets* and *barbutas*, or *chapels de fer* in the Balkan style, as clearly visible in representations of St Merkurios. A particular type of Eastern Roman *sallet* worn by most of the cavalrymen in the Trebisond *Codex of Alexander* corresponds with some actual specimens (one preserved in the Musée de l'Armée, Paris, and another in a British private collection). Another type of Roman *sallet* can be identified in conical specimens from Chalkis (one of them now preserved in the Metropolitan Museum of Art, New York). Western helmets with visors were rarer, but not unknown; a visored *bascinet* is worn by the centurion represented in the Church of St George in Missolourghi, dated to 1411. Such helmets, especially if adorned with a tall plume, were called σκούφια (*skoufia*) in the late medieval Roman military lexicon.



Front and rear views, from a high angle, of a damaged helmet dated to the first half of the 14th century, from western Anatolia, Turkey. Helmets of the same type have been found in Kipchak burials at Lipovets and Kovali dating from the 13th–14th centuries. Their Middle Eastern origin is confirmed by their distribution across the Turkic world, from the steppe nomads and Rus in the east to Anatolia in the west. (Armoury of Hisart Museum, Istanbul; author's photo, courtesy of the Museum)

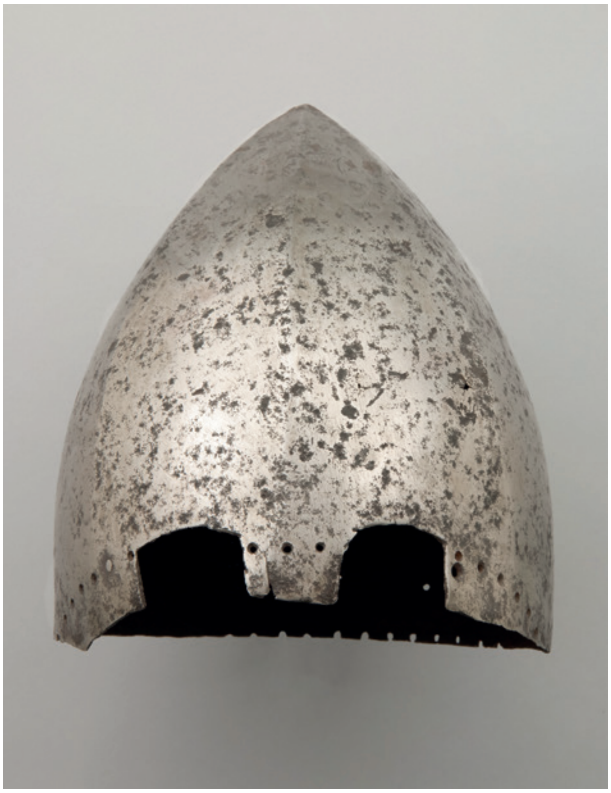
SHIELDS

A metal (actually, probably of wood and iron) *skoutárion* is mentioned in the *Strategikon* (II, 7; III, 1) for *Spatharioi* officers and cavalrymen not using the bow, usually worn on the left arm. The size is not mentioned, but Aussaresses proposes that it came to at least breast height, which fits with the remains of a 6th-century shield from Egypt.

According to the *Sylloge Tacticorum* (ST XXXI, 1), the cataphracts should have been protected by shields (*aspides*) not less than 4½ spans high (105.3cm/ 41.4 ins), and iconography shows the usual 'kite' shape of the period. (There is no mention in the *Sylloge* of *katáphraktoi* carrying round shields, though these too are visible in the iconography of 9th- and 10th-century cavalrymen.) The *Praecepta Militaria* expressly recommends that heavy cavalry should carry shields as protection from the enemy's arrows. These cavalry shields should be smaller than those of the heavy infantry (*oplitai*), to average between 4 and 5 spans (93.6–117cm/ 36.8–46 inches).

'Kite' (or 'almond') shields were in widespread use by cavalrymen during the 11th century, but Kinnamos remembers that, before the reforms of Manuel I Komnenos (1143–80), most of them were provided with round shields. Manuel's reforms included the re-adoption of longer kite shields reaching the feet of the horseman, and Al-Tartusi confirms that such shields were used by Franks and Romans. However, the iconography shows that circular shields also continued in use. During the 13th and 14th centuries the Frankish 'flat-topped triangular' shield was also adopted by the Roman cavalry.

Eastern Roman *sallet*, *c.* 1450, from Chalcis on the Greek island of Euboea. (Metropolitan Museum of Art, New York, inv. no. 29.158.44; public domain)



In the 15th century these triangular *skoutária* were seen alongside quadrangular ones typical of the Balkans in that period. Fully armoured warriors hardly used them, but, when fighting dismounted, might make use of a substantial round shield (*strouggolós*), perhaps of the type carried by infantry of the period.

The shields of *archontes* or imperial officers, of Western typology, were sometimes red (*Achilleis*, v.359), and lavishly decorated with gold figures and inscriptions (vv.124–125), probably following Italian fashion.

HORSES

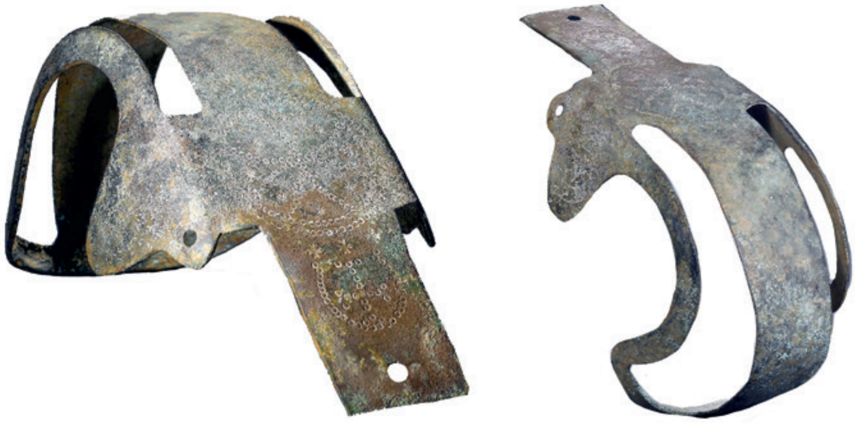
Procurement

The *Strategikon* of the 6th–7th century tells us that each cavalryman had two horses, the second ridden by a servant (V, 2). Other sources also give some indication of the types of horses used by the cataphracts, especially in the period between the 9th and 12th centuries. Heavy-armoured cavalrymen rode mainly Anatolian breeds, but also Persian and Arabian horses; imperial studs and stables were placed in the regions where horse-breeding was highly developed, such as Phrygia, Cappadocia, and Syria. The *Alexiad* of Anna Komnene contains an interesting account of the Thessalian mounts belonging to heavily-armoured Thracian and Macedonian riders.

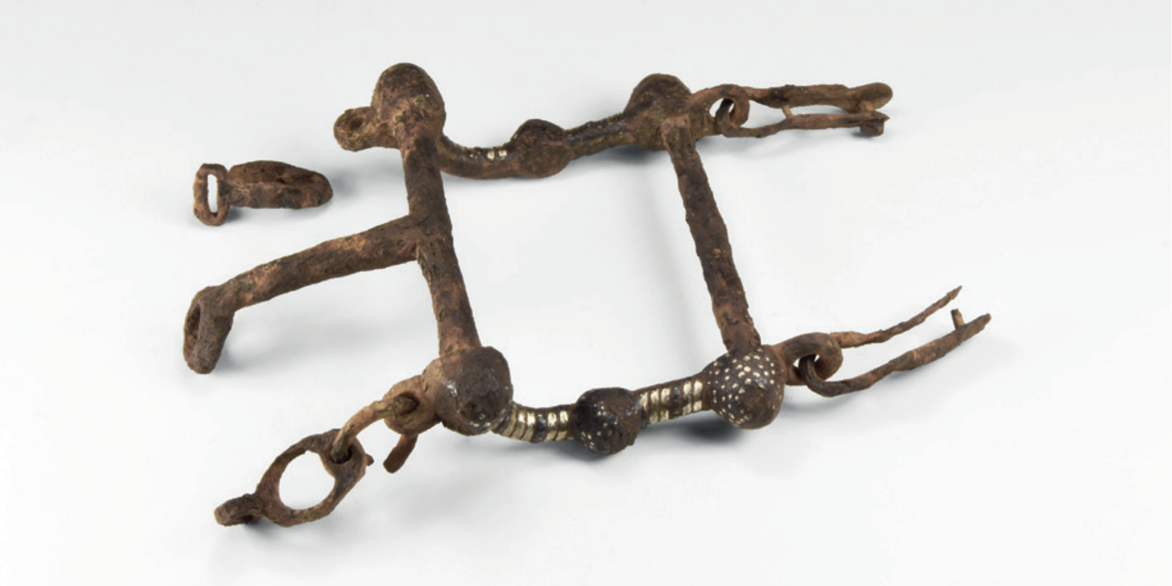
Harness and saddlery

Fundamental elements of the horse harness were the bridle bit (χαλινός, – Skilitzès MS, II, 4), and, from about AD 575, stirrups (σκάλαι – Leo, *Taktikà* VI, 10; ἐφεστρίς – Skilitzès MS, II, 4). In the period of Mavrikios and Heraclius (580s–640s) the Romans' heavy and medium cavalry equipment shows marked steppe influences, and reciprocal influences from Sassanian cavalry tactics and panoply.

The greatest innovation was the introduction of stirrups (*skálai* – *Strategikon*, I, 2; II, 9, 22–28), for which the Avars – who probably brought them across from the eastern steppe and China – were effectively responsible. When listing the riding gear of cavalrymen, Mavrikios, who was a keen-eyed observer of the nomadic warrior's equipment, specifically mentions iron stirrups suspended from the saddle on stirrup-leathers. Mavrikios's phrase (lit.



Roman bronze equine muzzle, c. 5th–6th century; provenance unknown. (The right image is oriented realistically.) This broad nose band, 28cm (11 ins) long, is stamped with concentric circles containing a cross with flaring arms, within each of which is a small star; other smaller crosses are engraved elsewhere. Note the holes for side attachment rings, and another centred at the top end; faint traces of an inscription remain on the side. (Private collection, photo courtesy Bonhams)

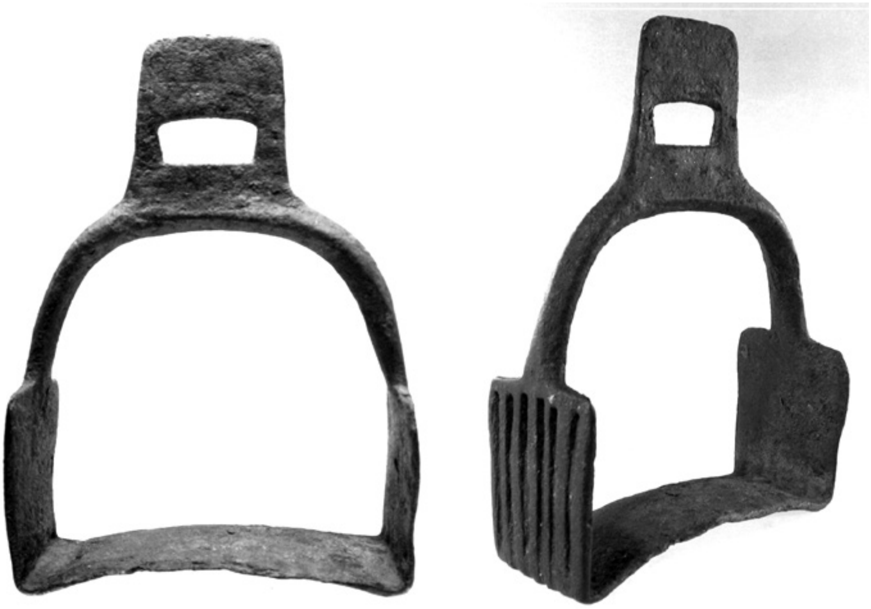


10th-century Roman curb bit, from a European private collection. (Photo courtesy Timelines Auctions)

'iron steps' or 'iron stairs') suggests a recent adoption by the Romans, since it refers simply to the function of mounting the horse. The very first mention of the stirrup, from the slightly earlier 5th/6th century Συναγωγή of Hesychios (col. 842), also uses the term ἀνάβασμα ('stairs'). As observed by Grotowsky, the introduction of the stirrup determined the design of the other elements of horse harness, as well as the posture of the rider. Despite the earlier references, in Eastern Roman iconography stirrups appear only from the 8th century.

The saddle now used was of the steppe style, which at some point in the 4th or 5th century had already replaced the old 'four-horned' type. According to the *Strategikon* the saddle should be composed of two parts, the saddle bow and the rear part, upon which the rider carried his mail-coat in its case when not in use (III, 7; V,3). The saddle had various bags and pockets: for spare harness straps; food for three–four days in a bag called the *selopoúggin*; a water flask (sometimes inside a sheath called an *argabia);* and a spare bridle bit (*pédikon*). The word *lorósokon* also appears, variously interpreted as meaning a muzzle, or a lasso as used by Eurasian steppe horsemen. Roman archaeology of the 6th–8th centuries shows the employment of gold appliqué and decoration on the anterior part of the saddle. A thick wool or felt saddlecloth (*hyposélion, kapoulion*) was obviously a necessity.

The horse harnesses of the Middle Period consisted of bridles (*kalinária*), and straps (κλίγκαι – *Digenis Akritas,* IV, 377) around the breast (*antilìna*) and hindquarters (*postilìna,* ὀπισθέλινα; see Du Cange, col. 82, 972, 1207), both of them fixed to the structure of the padded saddle. The term σέλλα, σελλοχαλὶνον was generally used to designate the whole assembly of bit, bridle and saddle (*Digenis Akritas,* VI, 555; *De Cer.* I, 80, 105; Leo's *Taktikà* VI, 8). The *antilìna* and *postilìna* passed over the edges of the saddle and then through two lateral holes, attaching to the saddle by means of buckles or buttons (*komposia*). The slightly raised saddle bow and cantle were of leather, sometimes over arched wooden formers, with a padded seat (*episélion*) between them. The main saddle body, fastened by a leather girth (sometimes decorated with interwoven designs), was set on two other layers



Iron stirrup from north-eastern Bulgaria, 10th–11th century. Stirrups were part of the cataphract's equipment from the end of the 6th century, but it is the many and complete specimens from 10th–11th-century Bulgaria that have allowed classification of typology; by Yotov's classification this is Type 4, variant A. Many examples of strongly-constructed stirrups come from battlefield sites, confirming that the *kavallarioi katáphraktoi* of the period favoured a strong platform for the foot, and suggesting a straight-legged riding posture. (Varna Archaeological Museum; photo courtesy of Prof Valeri Yotov)

of leather (i.e. saddle-flaps), and a thick cloth of various colours. Broad leather straps and large stirrups are visible in a 10th-century icon of St George in the Bargello Museum, Florence. These correspond well with wide, heavy iron stirrups of the 10th–12th centuries recently found at various sites in Bulgaria (Varna, Silistra–Drastar), Turkey (Bodrum) and Macedonia. From the 10th century onwards stirrups were called αναβολέυς (Suidas, *Lexicon* 1: 1629–14 [1811]).

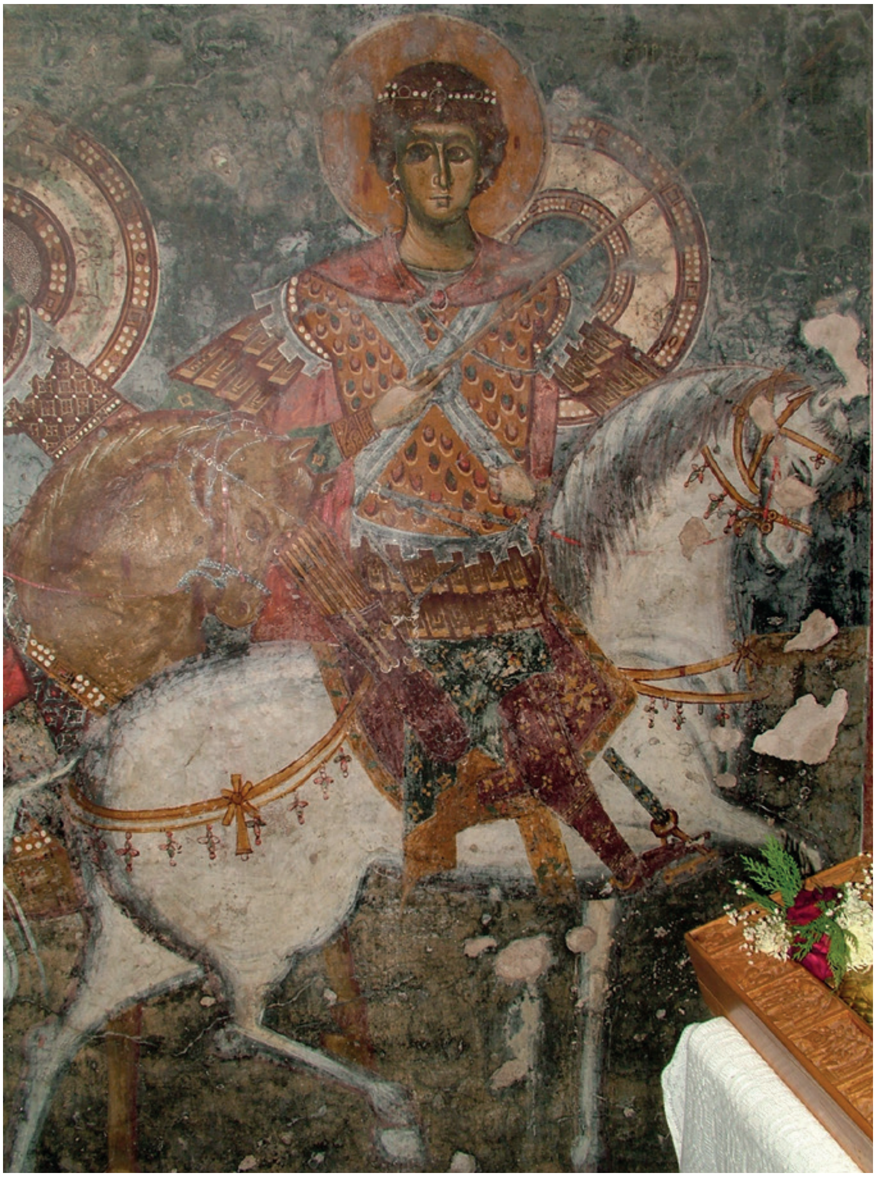
Conventionally, four tufts (*touphia*) hung from the *postilina*, one was positioned on the head, and another hung below the throat, while the harness was often decorated with discs (*phalerae)* or other metal applications. Examination of original *phalerae*, such as those found in the Church of St Achilleos at Lake Prespas, gives strap widths of at least 3.5cm (1.4 inches). In the last centuries of the Empire, harnesses were certainly used to display wealth and status. Late frescoes in Greece, Macedonia, Crete and other islands which depict military saints as Roman heavy cavalrymen show saddles with silver-gilt or gold covers, and silver- or gold-decorated bridles. The *Achilleis* (v.121ff) describes one 15th-century *katáphraktos archon* as having a gold saddle decorated with gems.

The horses themselves seem to have received a lot of care from their masters, at least in the later centuries. Indeed, a satirical text from the second half of the 14th century (Παιδιόφραστος διήγησις τῶν ζῴων τῶν τετραπόδων) suggests that horsemen gave more attention to their mounts – combing, adorning and perfuming them – than they did to their women...

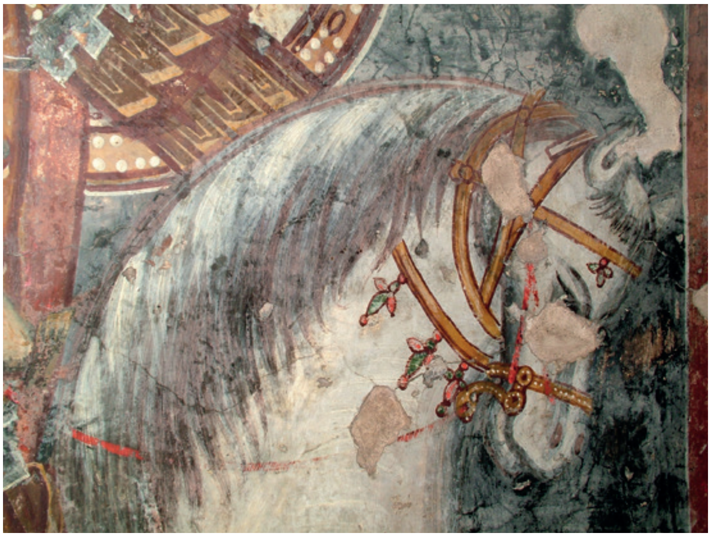
Protection

While it was not the rule among Eastern Roman cavalrymen described by the generic term *kavallarioi,* the heavily-armoured *katáphraktoi* might sometimes be mounted on horses protected by full or half-armour. Previously horse-armour had been considered too encumbering, but from the time of Justinian it was ordered that the horses of selected *katáphraktoi* should be covered (*katafrássein*) in the same manner as their riders, with protection for muzzle (*prometòpion*), neck (*peritrachélion*) and breast (*peristérnion, stethistérnion*), so as to be completely armoured on their frontal parts (*Peri Strategias*, XVII – although the date of this source is still debated). However, the horses of the heavy archers were unarmoured, for the sake of mobility (Procopius, *Bell. Pers.*, I, 1, 8–16).

The *Strategikon* of Mavrikios (I, 2, 35–39) prescribes that the mounts of senior commanders (*archóntes*), and elite soldiers (*epílektoi*) who fought in the front ranks, 'should have protective pieces of iron armour about their heads and breast plates of iron or felt, or else breast and neck coverings such as the Avars use'. This 'Avar' type is not described, but Pertusi proposes mail armour. According to Wojnowski, Mavrikios' mention of specifically Avar horse-armour should be treated with caution. Horse-armour had been used in the Graeco-Roman world for centuries; that used by the Roman *catafracti* and *clibanarii* had showed strong Persian influences, though perhaps it had



Early 14th-century representation of St George as a *katáphraktos*, in the Church of Panaghia at Platanià Amariou, Crete.
(This and following photos of details, *in situ;* author's photos)



Detail of bridle and neck strap from Church of Panaghia; note deep yellow colour of the straps, and cruciform pendant decorations.

later incorporated new elements adopted from steppe peoples such as the Avars. It is probable that the horse-armour mentioned in the *Strategikon* was a mixture of such elements with Roman patterns that had long been in use.

Recently, Bulgarian archaeologists excavating the fortress of Deultum (Debelt) have found no fewer than 6,000 fragments of armour, including two well-preserved sleeves. They may conceivably include a full set for a rider and horse, but analysis of their function continues. Made of rectangular wrought-iron plates on leather backing, the fragments seem to be from armours stored in wooden chests which were crushed when the north wall burned and collapsed during an Avar attack.

Writing of the battle of Nineveh in December 626 or January 627, Theophanes (p. 319) states that the horse of the Emperor Heraclius received many sword-strokes to its face, but was not harmed since it was wearing armour of *neurika*. This word has been variously interpreted as felt, cow-hide leather, or sinew, but we may deduce that it means some relatively light material. Iconography is rare, but a Coptic carving preserved in Cairo and dated to the time of Heraclius shows a heavy cavalryman clad in s*quama* (scale armour) whose horse has a striped breast-covering, suggesting felt or some other padded material.

Archaeological evidence is even scarcer, but there is some. The remains of a three-piece copper-alloy chamfron made to protect a horse's face was found during excavations at the southern Nubian capital of Soba. The pattern of

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THE 13th CENTURY

(1) Kipchak mercenary, Empire of Nicaea, *c.* 1210–1250

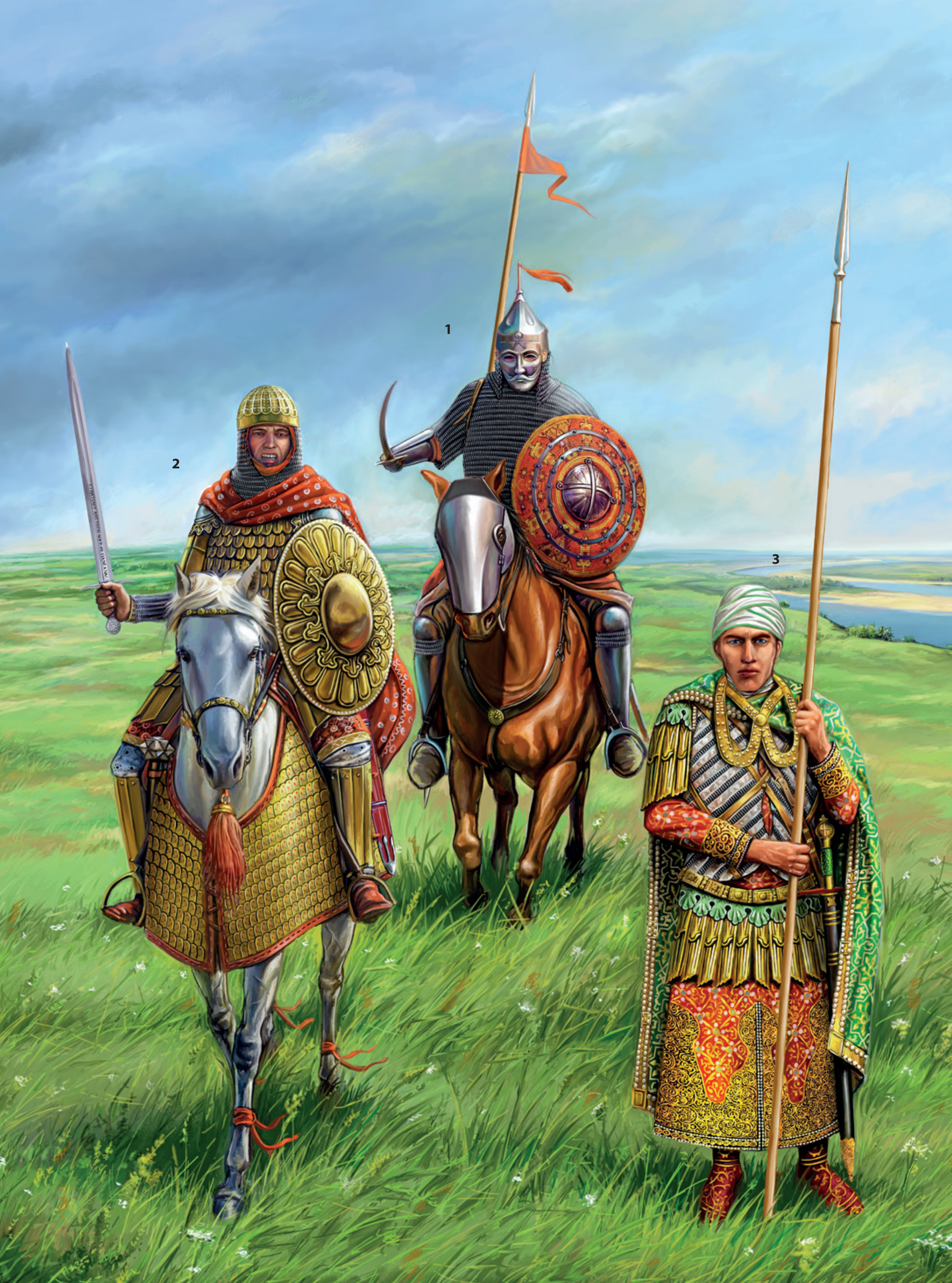
These Turkic nomad warriors were employed by Nicaean armies, fighting as horse-archers but also as heavy armoured cavalrymen. The Kipchaks formed a confederation with their neighbours to the west, the Cumans; archaeological finds show that some Cuman warriors in the 12th–14th centuries wore ring-mail, vambraces and greaves, and helmets with face-masks have been found in burials at Kovali, Lipovets and Rotmistrovka. Another type of face protection was a half-mask with a nasal bar covering the upper part, while the lower face was protected by ring-mail attached to the lower edge of the half-mask. This warrior is reconstructed from finds in the burials at Kovali and Lipovets, as well as from Kipchak burials in the Kuban region. The horse's head is protected by a chamfron. Although horse armour was not recorded in Kipchak burials, a chamfron of Middle Eastern type was found in one near the village of Romashki, so it is logical to suggest that the horses of Kipchak mercenaries in Eastern Roman service might have had similar protection.

(2*) Katáphraktos*, Empire of Nicaea, 1250

Sculptures dated to the 13th century in Rheims Cathedral were realized by a French artist who probably saw Palaeologian warriors with his own eyes, and rendered them in an extraordinarily realistic way. This man is equipped with a low-domed conical helmet (*kranos*), substantially similar to the specimen preserved in Siegburg; a scale cuirass (*sosanion),* with rounded plate shoulder-pieces*;* a round shield (*aspis*); and splint greaves (*chalkotouba*). Note, hanging in front of his right leg, his feared war-mace (*korrhinê*) for close combat. The horse is based on a *sgraffito* plate from Nicaea.

(3) Macedonian *archon*, 1260–80

The rarely published paintings from the North Macedonian monastery of Mariovo reveal the splendour of the local *archontes* under the renewed power of the Paleologian dynasty. This officer, wearing on his head a padded *phakeolion*, shows the employment of a *kazāghand* armour (see *Responsiones Demetrii Chomatiani,* p. 78), made of a mail-shirt covered inside and outside with fabric, fastened by straps and worn over a padded and embroidered red and gold *zoupa*. It too is furnished with rounded shoulder protectors, and has hanging *kremasmata* in coarse silk and cotton. The magnificent armour is worn together with a long robe (*sticharion*) and highly decorated military boots (*kampotouvia*).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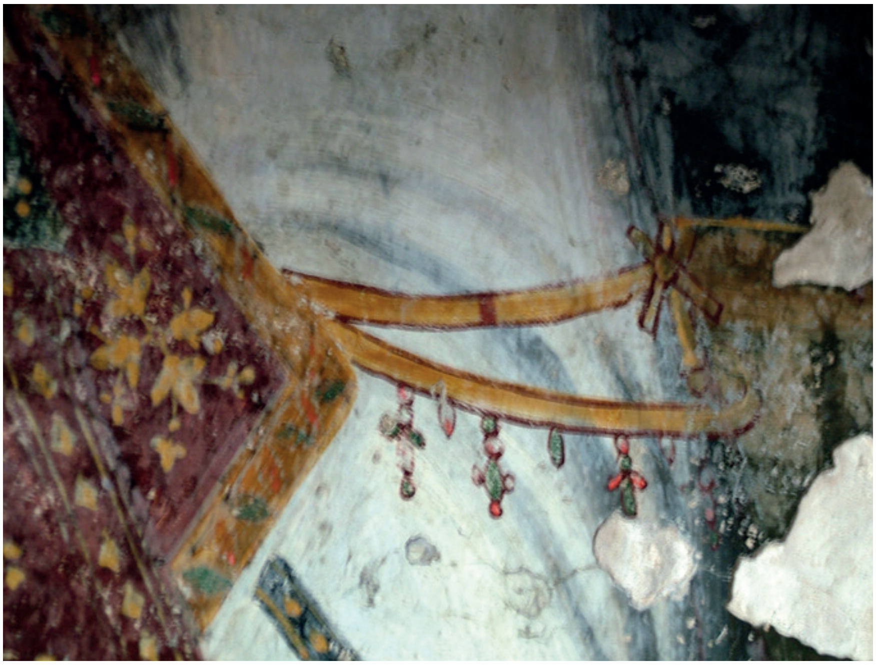
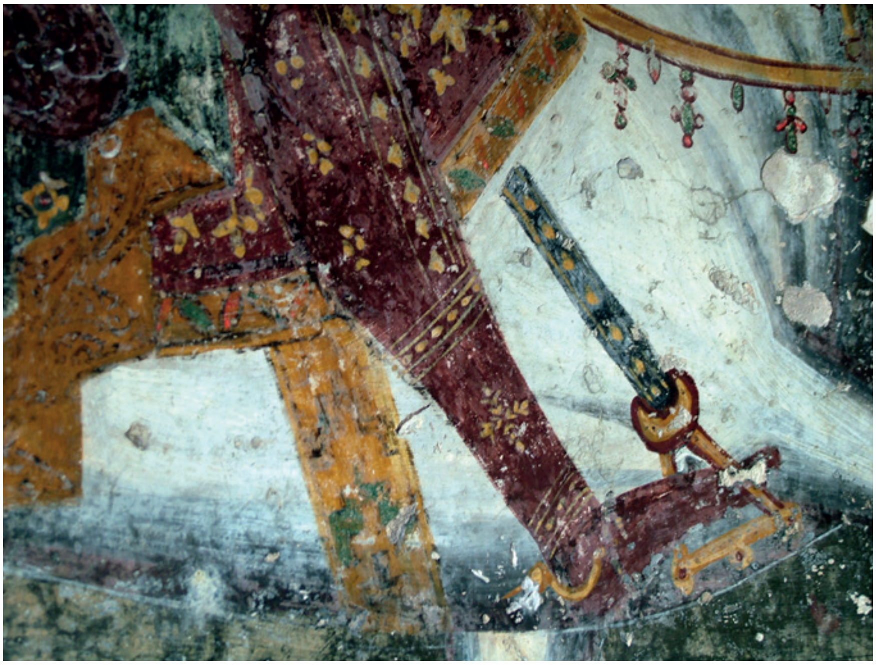
Detail of the *antilìna* from the Church of Panaghia.; the pendant decorations may perhaps be bi-metal crucifixes, with a silver Christ on a gold cross. Note too the richly decorated saddle-cloth.

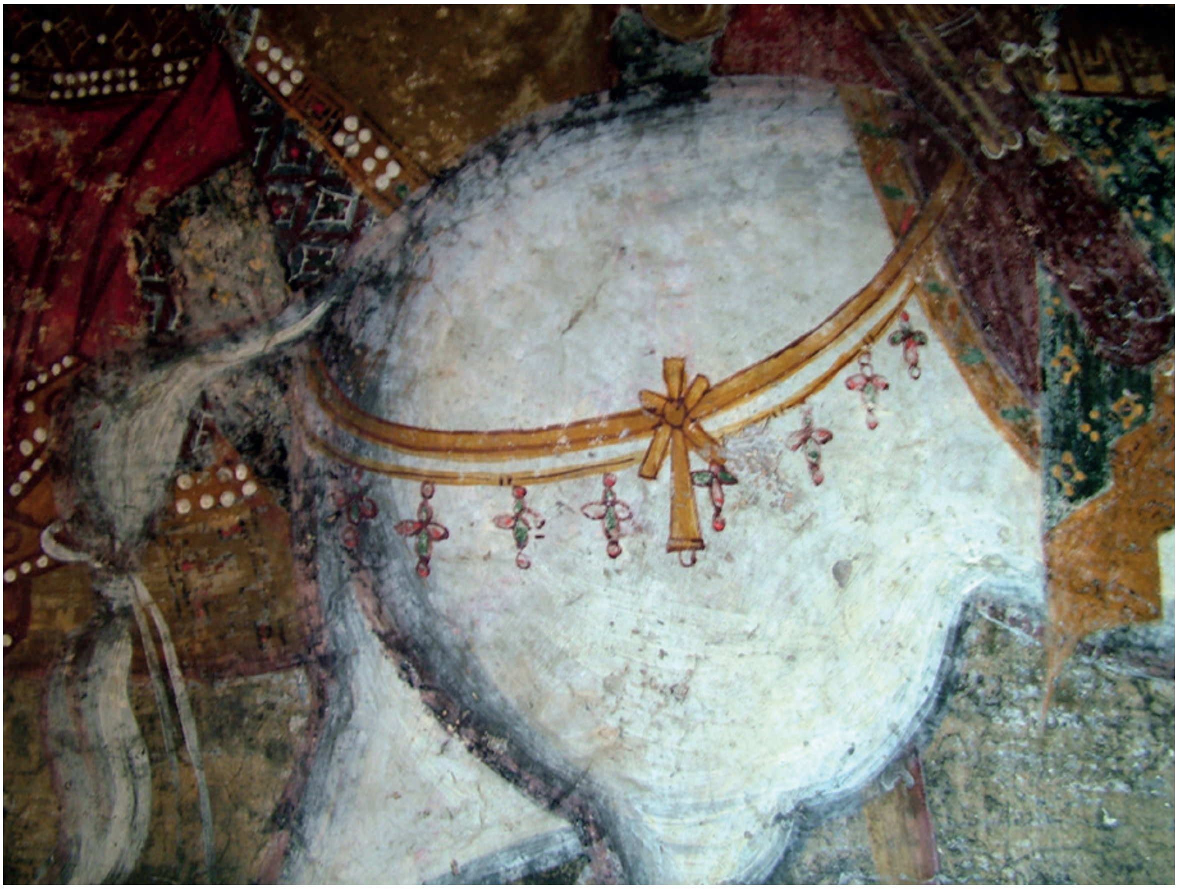


holes across its surface and the remains of some lacing show that it would have been decorated, perhaps covered in colourful cloth or fine leather, and thus would probably also have been used for parade purposes. It is very unlikely that this chamfron was made in medieval Nubia; it may have been an ancient relic preserved since Roman times, but is more likely to have come from neighbouring early medieval Roman Egypt.

Horse-armour of hardened leather (continuing a tradition dating from the 3rd century) and perhaps of horn *lamellae* may have become more



Detail of the stirrup and girth. in the early 14th-century painting in the Church of Panaghia.



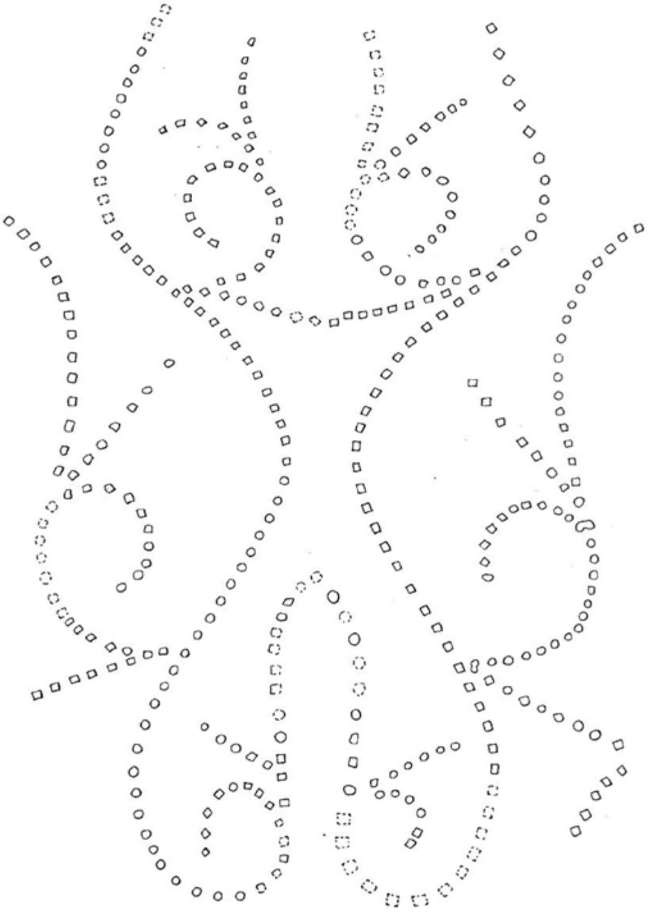
Detail of the *postilina* from the Church of Panaghia.

widespread during the 9th and 10th centuries, when notably well-equipped Roman armies were on the offensive against the Muslims of eastern Anatolia and northern Syria. In his *Taktikà* (VI, 26), Leo the Wise states that since horses in the past had been protected with body- and head-armour, so his own cavalry should cover the flanks, heads and necks of their mounts with lamellar armour, mail, or some other material (leather or buffalo-hide). Horses variously protected were also the subject of tribute in the late 10th century, when Alptegīn, the Turkish commander of the Ghulams in Syria, was obliged to give 20 armoured or caparisoned horses to the Roman emperor as part of a peace agreement.

Felt and quilted horse-armour probably remained the most common form, although in the 10th century some Roman cavalry were clearly riding fully-armoured horses. The *Sylloge Tacticorum* (XXXI, 2) prescribes that the heavy cavalrymen should protect the heads of their horses with chamfrons (*prometopidia*) and the necks and the breasts with iron scales or *lamellae*. In another passage (ST XXXIX, 6) we read that their horses 'should definitely be covered with face (προμετωπίδιον), breast (περιστηθίον), and flank protection (κατανωτίον) of either *lorikia* [mail] or *klibania* [scale or lamellar armour], and this should be constructed using either iron or horn'.

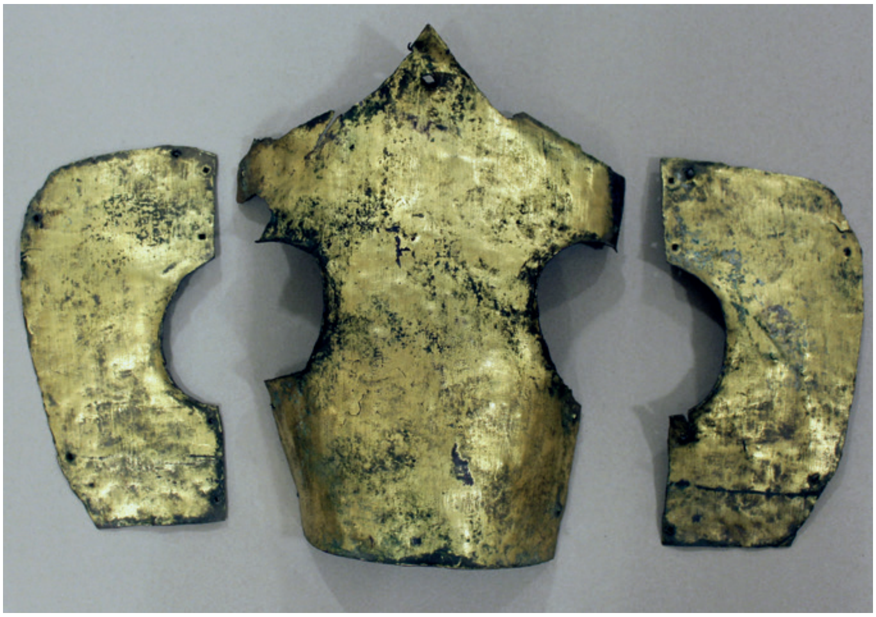
In his 10th century *Praecepta Militaria*, Nikêphóros Phokás is explicit about the protection of the mounts of cataphracts in the wedge formation. He states (PM III, 5) that these troops should use 'sturdy horses covered in armour, either of pieces of felt and boiled leather (κεντούκλων καὶ νεύρων

Punched pattern on face of a probably Byzantine three-piece copper-alloy chamfron from the southern Nubian capital of Soba, variously dated between the 8th and 14th centuries. (National Museum, Khartoun; drawing courtesy of Dr David Nicolle)



κεκολλημένων) fastened together down to the knees, so that none of the horse's body appears except its eyes and nostrils ... legs below the knees and... undersides.... Or else they can have *klivania* (lamellar or scale armours) made from buffalo hides (δέρματος βουβαλιού) over the chest of the horse, which should be split at the legs and underneath to permit the unhindered movement of the legs' (36, 37–45).

The word νεύρων is used here to indicate pieces of *cuir bouilli* fastened together into a sort of protective shell. In the sources the word κεντούκλον, on the other hand, often means fabric protection, for soldiers or horses, which itself might be covered by elements made of felt or iron, as already prescribed in the 9th century by Leo the Wise (*Taktikà,* V, 3: 'armour for the heads of the horses (προμετωπία), breastplates (στηθαρία) of iron or quilting [i.e. made of κεντούκλον] ... and similar coverings for their necks'). In the *Praecepta Militaria* (VI, 8) we read: 'The horses, especially those of the officers and other special troops, should have protective armour of iron or of padding, such as cow hide *(neurika),* over their heads and breasts. Their breasts and necks and, if possible, their abdomens will be covered by small pieces of what is called quilting (*afeletra* = ἀφελέτρα) hanging from the saddles. These have often preserved the horses as well as those riding them from great dangers. In particular, the men stationed in the front line of battle should have these items.'

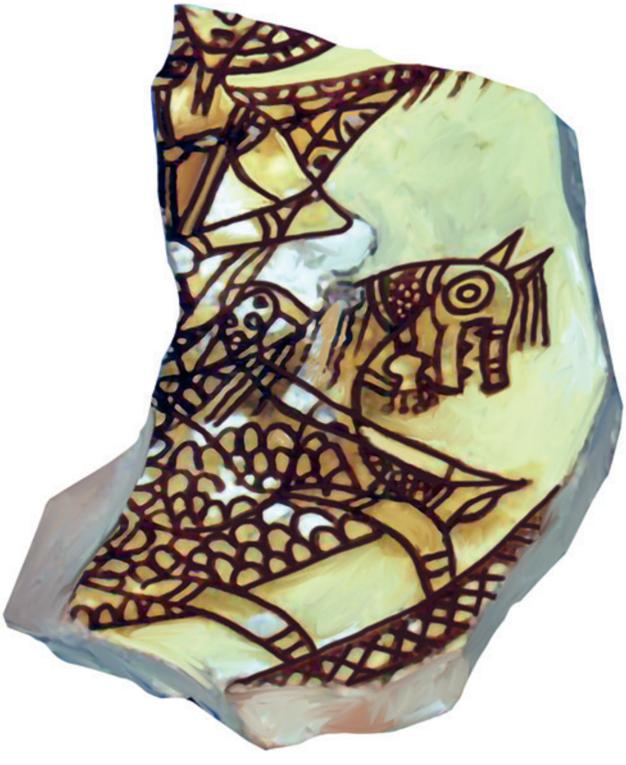


Three-piece Eastern Anatolian gilded iron chamfron (*prometopion*),11th–13th centuries. (Armoury of Hizart Museum, Istanbul; author's photo, courtesy of the Museum)

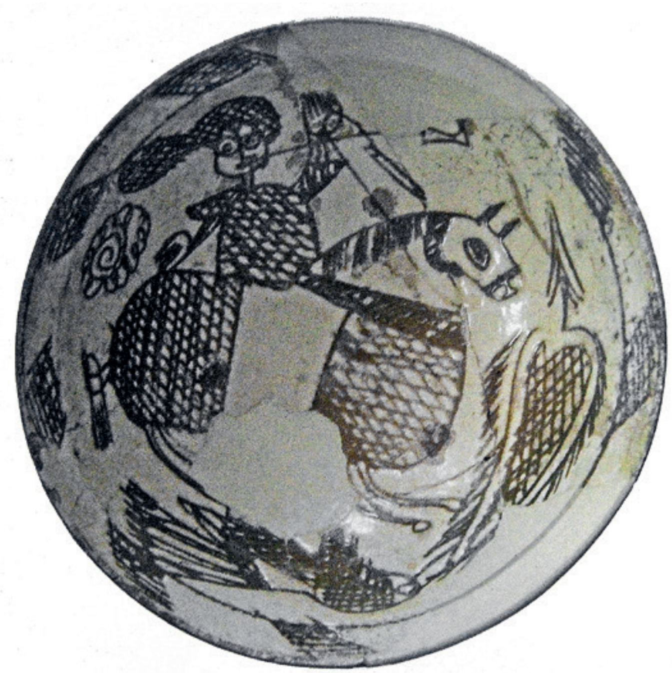
A passage in the *Taktikà* of Nikêphóros Ouranós is clearly copied from the *Praecepta Militaria*: the *katáphraktoi* 'must have powerful, bold horses. These... should also be covered in armour, either of pieces of felt and boiled leather glued or stitched together down to the knees, so as to cover the whole body of the horse, with nothing but his eyes and nostrils showing through, while from the knees down the horse's legs are uncovered. Or else the horse also should have *klivania* (lamellar or scale armours) made from buffalo hides. This type of *klivánion* should go over the horse's chest and be split at the legs of the horse and down below so as not to impede its feet'.

These descriptions of heavy cavalry horse-armour during the campaigns of Nikêphóros Phokás and John Tzimiskès are apparently echoed in a poem composed by Al-Mutanabbi (p.333) to celebrate the victory of Saif al-Dawla over the Taghmatic commander Vardas Phokás at Hadath in 953; the Roman *katáphraktoi* 'advanced against you, iron-covered. One would have said that they advanced on horses which seemed to have no legs ... because of the reflected glare ... because their garments and their turbans [sic] were of iron, like their sabres.'

Horse-armour was also provided for the Imperial Guard (*Vasilikoi*



Ceramic fragment from Nicaea, *c.* 1200, illustrating a *katáphraktos* on a horse fully protected with scale armour down to the knees. (Iznik Archaeological Museum; drawing by Andrey Negin)



Decoration on an important early 13th-century *sgraffito* ceramic cup from Veria, Macedonia, representing a cataphract-archer on a fully armoured horse. (Byzantine Museum, Veria; drawing by Andrey Negin)

Anthropoi). In the mid-10th century *Liber de Ceremoniis* (81–82) we have explicit mention of the mounts of the *Protospatharioi* eunuchs, *Spathárokandidatoi* and *Spatharioi*, when parading with the emperor on Easter Monday. These were fully covered (ἀπὸ καταφράκτων) by protection of mail, leather or felt: 'The officers of the *Kouboukleion* (imperial household) … riding horses covered with mail armour, each dressed in his purple *sagion* (military cloak) … Also the *Spathárokandidatoi* and the *Spathárioi* are riding on cataphract horses … with the sword at their side, and holding their shield and the axe … Behind are riding the eunuch *Protospatharioi,* dressed in their purple overtunic *(spekion)* with a gold band, [and] girded with swords; they are carrying their *spathovaklia* [pole-arm weapons] on their shoulders, and their horses are [those of] cataphracts; beside … rides the *Logothetas tou Dromou*, wearing a purple *sagion* and mounted upon a covered horse, and [then] the bearded *Protospatharioi*, dressed in the *spekion* … and also mounted upon cataphract horses.'

These practices were far from universal, however, and representations of Roman cavalry in the Middle Period, including men of the *tàghmata*, very rarely show horse-armour. One sculpture from the Church of St Bartholomeus in Armenia probably shows a heavy cavalryman's horse fully armoured, but it is variously dated between the 7th and 12th centuries. Such protection is also visible in the 12th-century iconography, on *sgraffito* dishes from Veria, Macedonia; and on a 13th-century example from Nicaea (modern Iznik, in Turkey).

The best image of Eastern Roman medieval cavalrymen employing horse-

H

THE 14th–15th CENTURIES

(1) *Katáphraktos*, siege of Vodena, 1351

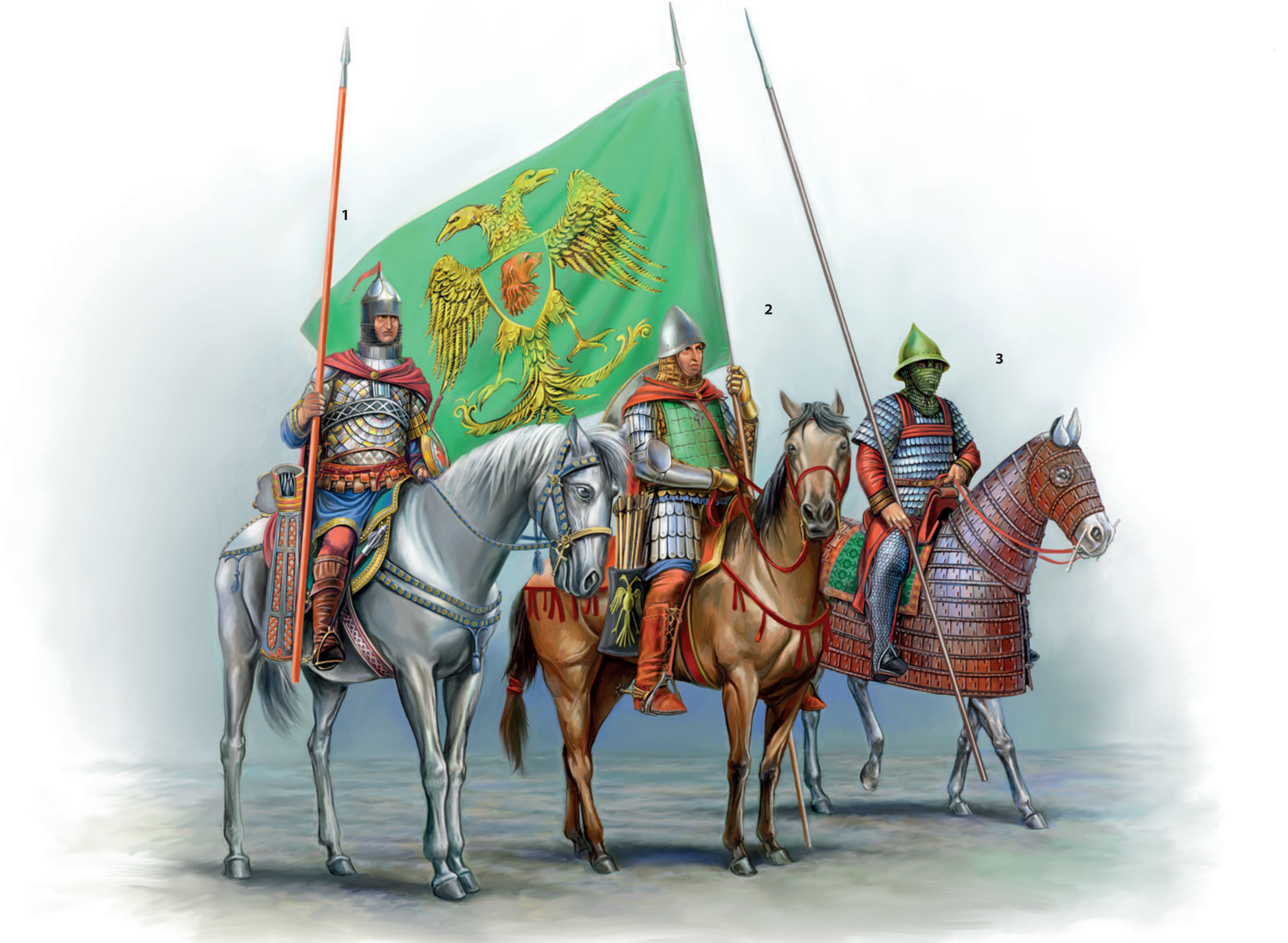
Reconstructed largely from a painting in Edessa Cathedral (ancient Vodena, Macedonia). His helmet, from a specimen recently found in Anatolia, poses a question about the origin of many nomad helmets, and of the interchange of Kipchak and Eastern Roman military materials. The body armour comprises a gorget worn with a *klivánion* in which the *petala* (*lamellae*) are arranged to form a central disc, typical of Turkic-Mongolian armour of the period; the shape of such corselets was clearly of oriental inspiration. For the other parts of the armour we must imagine a regular arrangement, such as an example with the same type of scales in a 14th-century representation of St Trofimos in the church at Decani; note also the small circular shield. The offensive weapons are a cavalry spear, a sword, a composite bow and a mace. We may suppose that this was the appearance of the 100 'local cataphract cavalrymen' mentioned by Kantakouzenos at the siege of Apros in 1322 (I, 29, p. 140).

(2) Heavy cavalryman, Empire of Trebisond, 1360

The *Codex of Alexander* shows one of the few images of a scale-armour visor in the Roman iconography of the period. It also offers a rare representation of armour made of *folides* (scales) mounted upon fabric. This *chiton folidotos* covers the body and upper legs of the warrior, while his horse is unarmoured.

(3) *Archon Bandophoros*, 1400

This elite officer standard-bearer is interpreted from the description in the *Achilleis* (vv. 493ff) supported by mural paintings in Cretan churches. His standard (φλάμπουρον or σημάδι) is described as bearing a spread eagle completely embroidered in gold (σταυραετος ὀλόχρυσος) and a purple lion's head (λέοντος στόμα κόκκινον), upon green backgrounds. The armour corresponds with that described in the poem; a combination of scale and plate protection, with a gorget, worn with a late form of Byzantine sallet.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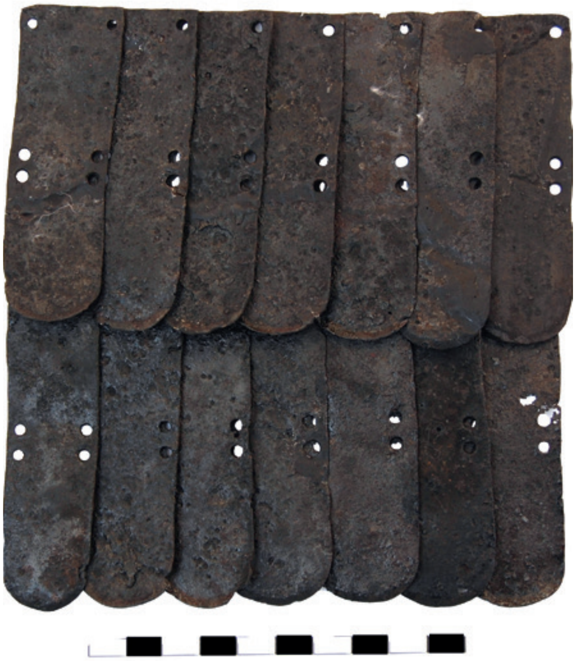
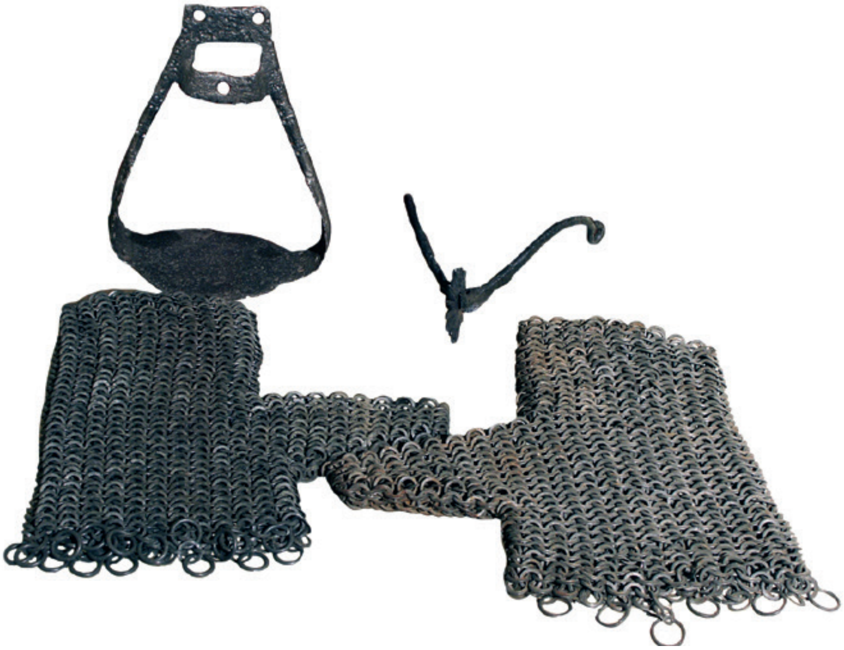


Set of 11th-century Eastern Roman *lamellae* found by Prof Vane Sekulov near Strugostjata, Bulgaria; each is pierced with two holes in the top corners and two midway down each side. These puzzling scales might have been from a horse armour, but might equally be elements from a soldier's *klivánion* corselet. (Strumica Museum; photo courtesy of Prof Valeri Yotov)

armour is found in the *Codex of Alexander,* a 14th-century document from Trebisond (see page 24). In the 15th-century twilight of the Empire, Turkish sources still mention the Roman cavalry riding armoured horses. Armours and horses of the Imperial *domestici* (shield-bearers) were, according to Tursun Beg, covered with silk and jewels. This is exactly what is shown by contemporary frescoes of the military saints, dressed and equipped like the a*rchóntes* of the last Roman elite. The *Achilleis* (v. 138) describes the hero armoured from head to foot (απὸ τὰ νύχια ἕως τὴν κορηφὴν … ἀρματωμένος … καὶ τον ιππάριν του), possibly including his horse, in order that he should not be recognized. His men (v. 465) are also completely armoured (ὠχυρωμένα) like their war-horses (φαρία). (The poem distinguishes between the war-horse, φαρί, and the baggage-train horse, *ippàrion upòsellon tou dromou.*)

Some military treatises, such as the *Perì Strategias*, recommend that the 'soles' of the horses' hooves should also be protected with iron plates (*petála*) so that they will not easily be injured by caltrops (*tribóloi*) and other devices (XXV,18–23). We know that during the battle of Troina in 1040 the horses of the *katáaphraktoi* were 'wrapped with iron protections'; this may refer to the covering of the lower part of the body, but possibly to the employment of iron shoes – like the so-called 'hypposandals' found on a number of ancient Roman sites.



Cavalry equipment from the Balkans, dated to the mid-15th century: stirrup, spur, and ringmail gauntlets. (Pleven Museum, Bulgaria; photo courtesy of Prof Valeri Yotov)

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DEDICATION

This book is dedicated to Dr Michael Gorelik, whose star will shine forever in the sky of military historians and archaeologists.

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Since we quote from sources in both Latin and Greek from over a period of several centuries, there are inevitable slight inconsistencies in spelling, e.g. *klivánion/ klibánion*, or *flamoula/ phlammoulai,* etc.

While today 'Byzantine' refers to the entire Empire, in ancient sources it refers specifically to the city of Byzantium/Constantinople. The term 'Roman' was used for the Empire and its people.

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